

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Anthony Green Examiner #: 65854 Date: _____
 Art Unit: 1753 Phone Number 30 Serial Number: 10/812,835
 Mail Box and Bldg/Room Location: Room 9C15 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Aqueous, colloidal gas black suspension
 Inventors (please provide full names): Kalbitz et al

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

STAFF USE ONLY

Searcher: <u>LH</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #: _____	NA Sequence (#) _____	STN <u>\$670,25</u>
Searcher Location: _____	AA Sequence (#) _____	Dialog _____
Date Searcher Picked Up: _____	Structure (#) <u>1</u>	Questel/Orbit _____
Date Completed: <u>11/8/04</u>	Bibliographic _____	Dr.Link _____
Searcher Prep & Review Time: <u>30</u>	Litigation _____	Lexis/Nexis _____
Clerical Prep Time: _____	Fulltext _____	Sequence Systems _____
Online Time: <u>100</u>	Patent Family _____	WWW/Internet _____
	Other _____	Other (specify) _____



STIC Search Report

EIC 1700

STIC Database Tracking Number: 137007

**TO: Anthony Green
Location: REM 9C15
Art Unit : 1755
November 8, 2004**

Case Serial Number: 10/812835

**From: Les Henderson
Location: EIC 1700
REM 4B28 / 4A30
Phone: 571-272-2538**

Leslie.henderson@uspto.gov

Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



Mellerson, Kendra

137007

From: Green, Anthony (AU1755)
Sent: Wednesday, November 03, 2004 1:36 PM
To: STIC-EIC1700
Subject: FW: Structure search 10/812,835

SCIENTIFIC REFERENCE BR
Sci & Tech. Info. Cntr

NOV 3

Please do a structure search for the structure found in claim 1. Thanks.

Pat. & T.M. Office

Anthony Green
Primary Patent Examiner
AU 1755
REMSEN-9C15
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BIBDATASHEET

CONFIRMATION NO. 3123

Bib Data Sheet

SERIAL NUMBER 10/812,835	FILING DATE 03/30/2004 RULE	CLASS 106	GROUP ART UNIT 1755	ATTORNEY DOCKET NO. 032301.001	
APPLICANTS Werner Kalbitz, Rodenbach, GERMANY; Gerd Tauber, Seligenstadt, GERMANY; Heinz Zoch, Maintal, GERMANY; Stephan Ludtke, Maintal, GERMANY; Thomas Luthge, Hanau, GERMANY; Ralph McIntosh, Hanau, GERMANY;					
** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** GERMANY 10 2004 007 780.0 02/18/2004					
IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 06/08/2004					
Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no 35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance Verified and Acknowledged _____ Examiner's Signature Initials		STATE OR COUNTRY GERMANY	SHEETS DRAWING 3	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 1
ADDRESS 25461 SMITH, GAMBRELL & RUSSELL, LLP SUITE 3100, PROMENADE II 1230 PEACHTREE STREET, N.E. ATLANTA, GA 30309-3592					
TITLE Aqueous, colloidal gas black suspension					
		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing)			

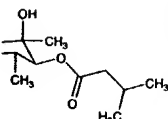
H₂. Prep'd by reflux-hydrate: Mohr *et al.*

153-154°. Freely sol. Practically insol in forms salts with acids. ly explosive carbonyl

3-bifindole; 2H-pyrid-mol wt 168.20. C Robinson, Thornley, n of derivs: Hörlein, J. *Heterocycl. Chem.* kau, M. L. Heffernan;

225°. d 1.352. Can without dec. Strong at less sol in ethanol.

Sixteen-membered-milar to leucomycin, by *Streptomyces hal-* F. W. Tanner *et al.*, two components have) and carbomycin B. t. 2,960,438 (1960 to ai, *J. Am. Chem. Soc.* B: R. B. Woodward, ructure: M. Kuehne, 4660 (1965); R. B. ig of A and B: W. D. y of A with deltamyl- biot. 31, 270 (1978). *Am. Chem. Soc.* 99, thesis of B: eideim, synthetic studies: K. c. 103, 1222 (1981). ol. 1, D. Gottlieb, P. York, 1967) pp 366- *Chem. Org. Naturst.*



13S)-9-deoxy-12,13-3-acetate 4B-(3-meth-n A, M-4209. Blunt -58.6° (chloroform). % 185, 0.9). Carbo- g a potency of 1080 e H. L. Martin, *Anti-* Veak base, pKb 7.2. *ibid.* 7, 374 (1957) in thanol > 20; ethanol Tanner). 9-oxoleucomycin V 3-mycin B. Colorless . mp 141-144° (dec). chloroform). uv max

(abs ethanol): 278 nm (E_{1%}^{1cm} 276). pKb 7.56. Solubilities in mg/ml at 25°: ethanol 450; water 0.1-0.2.

THERAP CAT: Antibacterial.

THERAP CAT (VET): Antibacterial.

1855. Carbon. C; at. wt 12.01115; at. no. 6; valence 4. Stable isotopes: 12 (98.892%); 13 (1.108%); radioactive iso- topes: 9-11; 14-16. Abundance in earth's crust: approx 0.027%. Cosmic abundance: 6 atoms/atom Si. Occurs in 4 allotropic forms: (1) diamond, q.v.; (2) graphite, q.v. or black lead; (3) amorphous carbon such as coal, lampblack; (4) fullerenes, see Buckminsterfullerene, the only molecular form. Comprehensive reviews: P. L. Walker, *Am. Scientist* 50, 259-293 (June 1962); Holliday *et al.* in *Comprehensive Inorganic Chemistry* vol. 1, J. C. Bailar, Jr. *et al.*, Eds. (Pergamon Press, Oxford, 1973) pp 1173-1294; several authors in Kirk-Othmer *Encyclopedia of Chemical Technology* vol. 4 (Wiley-Interscience, New York, 3rd ed., 1978) pp 556-709.

¹⁴C isotope, continuously formed in the earth's atm by the bombardment of nitrogen with cosmic neutrons according to the reaction ¹⁴N + ¹0 → ¹⁴C + ¹H. The ¹⁴C is rapidly oxidized to CO₂, in this form it penetrates into animals and plants by photosynthesis and metabolism. The ¹⁴C content of living matter is estimated at 15.3 disintegrations per minute and per gram of carbon, corresponding to the equilibrium reached between formation of ¹⁴C and its exchange with ¹²C. This equilibrium stops when the plant or animal dies, and the ¹⁴C content begins to decrease, because the ¹⁴C decays with a half-life of 5760 years. This fact can be used to date organic matter (not more than 40,000 years old) by comparison with the standard 15.3 disintegrations per min per gram: M. Haissinsky, J. P. Adloff, *Radiochemical Survey of the Elements* (Elsevier, New York, 1965) pp 30-32.

1856. Carbon, Amorphous. Carbon black; activated carbon; decolorizing carbon. A quasi-graphitic form of carbon of small particle size. By the term "carbon black" several forms of artificially prepared carbon or charcoal are designated, e.g.: (1) *Animal charcoal*, obtained by charring bones, meat, blood, etc.; (2) *Gas black; furnace black; channel black; C.I. 77266*, obtained by incomplete combustion of natural gas; (3) *Lamp black*, obtained by burning various fats, oils, resins, etc., under suitable conditions; (4) *Activated charcoal*, e.g. *Carbomix, Carboraffin, Medical, Norit, Oporacryl, Ultracarbon*, prep'd from wood and vegetables. Monograph: H. W. Davidson *et al.*, *Manufactured Carbon* (Pergamon Press, New York, 1968). Reviews: Cohan in *Science of Petroleum* vol. V, Pt 2, B. T. Brooks, A. E. Dunstan, Eds. (Oxford Univ. Press, 1953), pp 79-89; Smisek, Cerny, *Active Carbon* (Elsevier Publishing Co., Amsterdam, 1970).

Note: Carbon black obtained by the impingement or channel process, also known as gas black and channel black, has been banned by the FDA for use as a color additive in foods, drugs and cosmetics.

USE: Pigment for rubber tires; for printing, stenciling and drawing inks; for leather; stove polish, phonograph records, electrical insulating apparatus. Activated charcoal for clarifying, deodorizing, decolorizing and filtering.

THERAP CAT: Activated charcoal as antidote; adsorptive.

THERAP CAT (VET): Internally as an adsorptive in diarrhea; externally in foul wounds.

1857. Carbon Dioxide. Carbonic acid gas; carbonic anhydride. CO₂; mol wt 44.01. C 27.29%, O 72.71%. Occurs in the atms of many planets. In our solar system, e.g., on Venus, the optical layer thickness due to CO₂ is 100,000 cm/atm, but only 220 cm/atm on Earth. Analyses of air in the temperate zones of the Earth show 0.027 to 0.036% (v/v) of CO₂: G. P. Kuiper, *The Atmospheres of the Earth and the Planets* (Univ. of Chicago Press, 1949); Landolt-Bornstein, *Zahlenwerte* vol. III (Springer-Verlag, 6th ed., 1952) pp 59 and 585. Constituent of carbonate type of minerals and products of animal metabolism. Necessary for the respiration cycle of plants and animals. Obtained industrially as a by-product in the manuf of lime during the "burning" of limestone (CaCO₃). Also produced by burning coke or other carbonaceous material. In the U.S.A. large amounts are produced by fermentation (Backus process and Reich process). When glucose is fermented by yeast, the chief products are ethyl alcohol and CO₂. Prep'd in the

laboratory by dropping acid on a carbonate: E. H. Archibald, *The Preparation of Pure Inorganic Substances* (Wiley, New York, 1932) p 196; Loomis, Walters, *J. Am. Chem. Soc.* 48, 3103 (1926). Purification: Glemser in *Handbook of Preparative Inorganic Chemistry*, G. Brauer, Ed. (Academic Press, New York, 2nd ed., 1963) p 647. Discovery of a second polymorph of dry ice: L.-G. Liu, *Nature* 303, 508 (1983). Reviews: E. L. Quinn, *J. Chem. Ed.* 7, 151-162 and 403-419 (1930); J. Kuprianoff, *Die feste Kohlensäure (Trockeneis)* (Enke, Stuttgart, 1939); E. L. Quinn, C. L. Jones, *Carbon Dioxide* (Reinhold, New York, 1947); W. R. Ballou, in Kirk-Othmer *Encyclopedia of Chemical Technology* vol. 4 (Interscience, New York, 3rd ed., 1978) pp 725-742.

Colorless, odorless, noncombustible gas. Faint acid taste. Usually a nonsupporter of combustion, although burning magnesium continues to burn when transferred into a CO₂ atm. Usually marketed in steel cylinders (under sufficient pressure to keep it liquid) or in solid form as *Dry Ice* (compressed carbon dioxide snow, d 1.35). When shipped in steel cylinders, CO₂ is in the form of gas over liquid and at 20° exerts a pressure of 830 psi. Use gloves when handling dry ice, as its temp is at least -78.5°; momentary skin contact with dry ice has caused serious frostbites and blisters. At atmospheric pressures the solid form changes into the gaseous phase without liquefaction. d (gas) 1.527 (air = 1); d (gas) 1.557 (N₂ = 1); abs d 0.1146 lb/cu ft at 25°; vol at 25°: 8.76 cu ft/lb. d (gas, 0°) 1.976 g/l at 760 mm; d (liq, 0°) 0.914 at 34.3 atm; d (solid, -56.6°) 1.512. Sublimes at -78.48° (760 mm). mp_{5.2 atm} -56.6°. The gas is not affected by heat until temp reaches about 2000°. Crit temp 31.3°; crit press 72.9 atm; crit density 0.464. Triple point -56.6° at 5.11 atm. Vapor press at -120°: 10.5 mm; at -100°: 104.2 mm; at -82°: 569.1 mm. Heat of formation 94.05 kcal/mol. Latent heat of vaporization 83.12 g cal/g. Specific heat 0.19 to 0.21 Btu/lb. Soly in water (ml CO₂/100 ml H₂O at 760 mm): 0° = 171; 20° = 88; 60° = 36. More sol at higher pressures. Less sol in alcohol, other neutral organic solvents. Absorbed by alkaline solns with the formation of carbonates.

Caution: Potential symptoms of overexposure are headache, dizziness, restlessness and paresthesia; dyspnea; sweating, malaise; increased heart rate and pulse pressure; elevated blood pressure; coma; asphyxia; convulsions at high concentrations: frostbite (dry ice). See *NIOSH Pocket Guide to Chemical Hazards* (DHHS/NIOSH 90-117, 1990) p 58.

USE: In the carbonation of beverages; manuf of carbonates; in fire prevention and extinction; for inerting flammable materials during manuf, handling and transfer; as propellant in aerosols; as dry ice for refrigeration; to produce harmless smoke or fumes on stage; as rice fumigant; as antiseptic in bacteriology and in the frozen food industry.

THERAP CAT: Respiratory stimulant.

THERAP CAT (VET): Respiratory stimulant (inhalant).

1858. Carbon Diselenide. Carbon selenide. CS₂; mol wt 169.93. C 7.07%, Se 92.93%. Prep'd by the action of methylene chloride vapor on heated selenium: Ives *et al.*, *J. Chem. Soc.* 1947, 1080; or from a mixture of CCl₄ and H₂Se in a stream of N₂ at 500°: Grimm, Metzger, *Ber.* 69, 1356 (1936); from the elements by electrical discharge on Se vapor in the presence of sugar charcoal: Steudel, *Z. Anorg. Allgem. Chem.* 361, 195 (1968).

Light-sensitive, golden yellow, strongly refractive, liquid. Odor of rotten radishes. Turns brown to black on storage. d₂₀²⁰ 2.6824; d₂₅²⁵ 2.6626. mp -45.5°. bp 125-126°; bp₈₀ 10.0°. n_D²⁰ 1.845. Heat of formation: 34 kcal/mol. Miscible with carbon tetrachloride, carbon disulfide, toluene, other organic solvents. Practically insol in water. Dec by alc, pyridine.

1859. Carbon Disulfide. Carbon bisulfide; dithiocarbonic anhydride. CS₂; mol wt 76.14. C 15.77%, S 84.23%. Minute amounts occur in coal tar and in crude petroleum. Prep'd on an industrial scale by heating charcoal with vaporized sulfur; from sulfur and natural gas: Faith, Keyes & Clark's *Industrial Chemicals*, F. A. Lowenheim, M. K. Moran, Eds. (Wiley-Interscience, New York, 4th ed., 1975) pp 224-229. Laboratory purification: Glemser in *Handbook of Preparative Inorganic Chemistry* vol. 1, G. Brauer, Ed. (Academic Press, New York, 2nd ed., 1963) p 652. Review of production and uses: Bushell, *Chem. & Ind.*

=> d his ful

(FILE 'HOME' ENTERED AT 10:27:05 ON 08 NOV 2004)

FILE 'LREGISTRY' ENTERED AT 10:27:18 ON 08 NOV 2004
L1 STRUCTURE

FILE 'REGISTRY' ENTERED AT 10:38:19 ON 08 NOV 2004

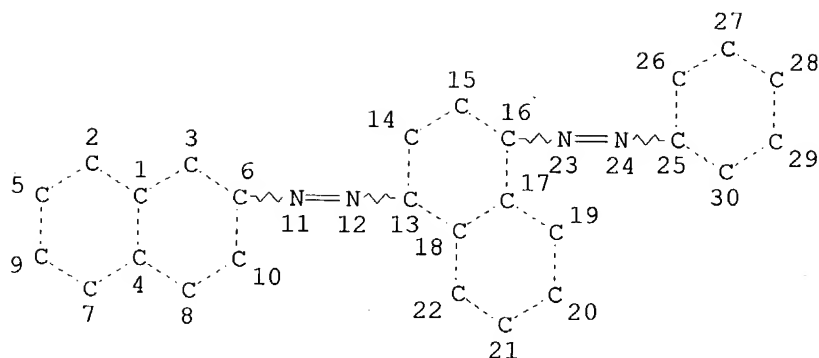
L2 D QUE STAT
50 SEA SSS SAM L1
D QUE STAT
L3 1754 SEA SSS FUL L1
SAV L3 GRE835/A
D SAVED
E CARBON/CN
L4 1 SEA ABB=ON PLU=ON CARBON/CN
D SCAN
D RN

FILE 'HCA' ENTERED AT 10:48:54 ON 08 NOV 2004
L5 896 SEA ABB=ON PLU=ON L3
L6 8 SEA ABB=ON PLU=ON L5 AND L4
D SCAN
D SCAN
L7 2375 SEA ABB=ON PLU=ON (COLLOID? OR SUSPENS?) (2A) (CARBON OR
CHARCOAL OR L4)
L8 3327 SEA ABB=ON PLU=ON (GAS OR FURNACE OR CHANNEL OR SOOT) (A) BLACK

L9 5671 SEA ABB=ON PLU=ON L8 OR L7
L10 0 SEA ABB=ON PLU=ON L5 AND L9 AND (WATER OR H2O OR AQUEOUS?)
L11 0 SEA ABB=ON PLU=ON L5 AND L9
D SCAN L6
D L6 1-8 TI AU
L12 312618 SEA ABB=ON PLU=ON GRAPHIT? OR (ACTIVAT? OR BLACK OR AMORPHOUS
?) (A) (CHARCOAL? OR CARBON?)
L13 315074 SEA ABB=ON PLU=ON L12 OR L9
L14 64 SEA ABB=ON PLU=ON L13 AND L5
L15 259173 SEA ABB=ON PLU=ON INK?/SC, SX
L16 49 SEA ABB=ON PLU=ON L15 AND L14
L17 56 SEA ABB=ON PLU=ON L6 OR L16
L18 1 SEA ABB=ON PLU=ON L6 AND L15
L19 49 SEA ABB=ON PLU=ON L18 OR L16
D L19 1-49 TI AU
L20 156428 SEA ABB=ON PLU=ON DYE?/SC, SX
L21 51 SEA ABB=ON PLU=ON L5 AND (L4 OR L13) AND (L16 OR L20)
D QUE STAT
L22 42 SEA ABB=ON PLU=ON L21 AND (WATER OR H2O OR AQUEOUS)
L23 1 SEA ABB=ON PLU=ON L22 AND (COLLOID? OR SUSPEN?)
D SCAN
D QUE STAT L22

=> d que stat 122

L1 STR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC I
 NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE

L3 1754 SEA FILE=REGISTRY SSS FUL L1
 L4 1 SEA FILE=REGISTRY ABB=ON PLU=ON CARBON/CN
 L5 896 SEA FILE=HCA ABB=ON PLU=ON L3
 L7 2375 SEA FILE=HCA ABB=ON PLU=ON (COLLOID? OR SUSPENS?) (2A) (CARBON OR CHARCOAL OR L4)
 L8 3327 SEA FILE=HCA ABB=ON PLU=ON (GAS OR FURNACE OR CHANNEL OR SOOT) (A) BLACK
 L9 5671 SEA FILE=HCA ABB=ON PLU=ON L8 OR L7
 L12 312618 SEA FILE=HCA ABB=ON PLU=ON GRAPHIT? OR (ACTIVAT? OR BLACK OR AMORPHOUS?) (A) (CHARCOAL? OR CARBON?)
 L13 315074 SEA FILE=HCA ABB=ON PLU=ON L12 OR L9
 L14 64 SEA FILE=HCA ABB=ON PLU=ON L13 AND L5
 L15 259173 SEA FILE=HCA ABB=ON PLU=ON INK?/SC,SX
 L16 49 SEA FILE=HCA ABB=ON PLU=ON L15 AND L14
 L20 156428 SEA FILE=HCA ABB=ON PLU=ON DYE?/SC,SX
 L21 51 SEA FILE=HCA ABB=ON PLU=ON L5 AND (L4 OR L13) AND (L16 OR L20)
 L22 42 SEA FILE=HCA ABB=ON PLU=ON L21 AND (WATER OR H2O OR AQUEOUS)

=> d l22 1-42 cbib abs hitstr hitind

L22 ANSWER 1 OF 42 HCA COPYRIGHT 2004 ACS on STN
 141:227060 **Water**-based cyan ink compositions for ink-jet printing and the method for using them. Nakamura, Masaki; Tomotake, Atsushi; Iijima, Hirotaka (Japan). U.S. Pat. Appl. Publ. US 2004171718 A1 20040902, 22 pp. (English). CODEN: USXXCO. APPLICATION: US 2004-781280 20040217. PRIORITY: JP 2003-50824 20030227.

AB The title comps. comprise pigment particles or **water**-insol. colored polymer particles, wherein an ink-jet image is formed by jetting the **water**-based cyan ink on a porous ink-jet recording sheet with an ink-jet printer without being subjected to a post-treatment. Thus, mixing 166 g C.I> Pigment Blue 15:3 with 32 g polymer dispersing

agent, 180 g diethylene glycol and 1000 g **water** gave a pigment dispersion (procedure given), which was then mixed with SA 25 (shellac resin) and solvent mixture containing ethylene glycol, triethylene glycol monobutyl ether, Olefin E1010 and Proxel GXL, to give a title ink composition

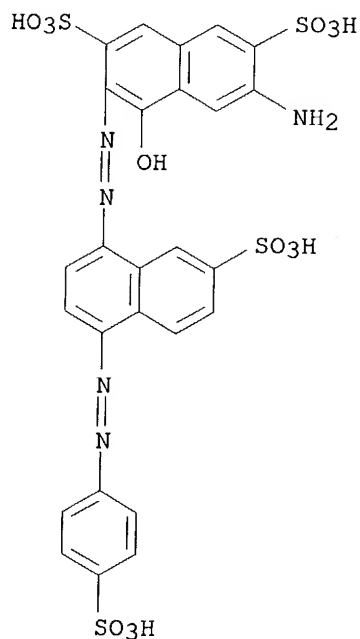
IT **2118-39-0**, C.I. Food Black 2

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(in **water**-based cyan ink compns. for ink-jet printing)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

IC ICM C09D011-02

ICS C03C017-00

NCL 523160000; 106031600; 523161000

CC 42-12 (Coatings, **Inks**, and Related Products)

Section cross-reference(s): **41**

ST pigment colorant **water** based cyan ink jet printing compn

IT Polyvinyl butyrals

RL: NUU (Other use, unclassified); USES (Uses)

(BL 1, dispersing agent; in **water**-based cyan ink compns. for ink-jet printing)

IT Shellac

RL: MOA (Modifier or additive use); USES (Uses)

(SA 25; in **water**-based cyan ink compns. for ink-jet printing)

IT Coloring materials

Pigments, nonbiological

(in **water**-based cyan ink compns. for ink-jet printing)

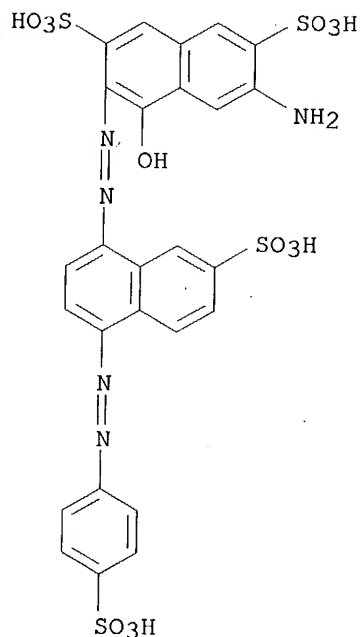
IT **Carbon black**, uses

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(in **water**-based cyan ink compns. for ink-jet printing)

- IT Inks
(jet-printing, **water**-thinned; in **water**-based cyan ink compns. for ink-jet printing)
- IT Ink-jet printing
(**water**-based cyan ink compns. for ink-jet printing and the method of using them)
- IT Dyes
(**water**-soluble; in **water**-based cyan ink compns. for ink-jet printing)
- IT 503030-66-8, Butyl acrylate-2-ethylhexyl acrylate-styrene-styrenesulfonic acid copolymer
RL: NUU (Other use, unclassified); USES (Uses)
(dispersing agent; in **water**-based cyan ink compns. for ink-jet printing)
- IT 56-81-5, Glycerin, uses 57-55-6, Propylene glycol, uses 67-63-0, 2-Propanol, uses 107-21-1, Ethylene glycol, uses 111-46-6, Diethylene glycol, uses 141-78-6, Ethyl acetate, uses 143-22-6, Triethylene glycol monobutyl ether 151-21-3, Sodium dodecyl sulfate, uses 515-42-4, Sodium benzenesulfonate 577-11-7, Sodium bis(2-ethylhexyl)sulfosuccinate 6920-22-5, 1,2-Hexanediol 9003-53-6, Polystyrene 24800-44-0, Tripropylene glycol 25301-37-5, Butyl methacrylate-methacrylic acid-styrene copolymer 26010-51-5, 2-Hydroxyethyl methacrylate-styrene copolymer 31423-16-2, Butyl methacrylate-2-hydroxyethyl methacrylate-styrene copolymer 748149-96-4, Hitech 532
RL: NUU (Other use, unclassified); USES (Uses)
(in **water**-based cyan ink compns. for ink-jet printing)
- IT 147-14-8, C.I. Pigment Blue 15:3 980-26-7, C.I. Pigment Red 122 2118-39-0, C.I. Food Black 2 2611-80-5 12222-04-7, C.I. Direct Blue 199 12237-24-0, C.I. Solvent Blue 70 61968-26-1, C.I. Direct Yellow 132 77804-81-0, C.I. Pigment Yellow 180 224628-70-0
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in **water**-based cyan ink compns. for ink-jet printing)
- L22 ANSWER 2 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 139:308990 **Water**- and scratch-resistant ink-jet recording liquid compositions with good storage and discharge stability and recording technique therefor. Takimoto, Hiroshi (Japan). Jpn. Kokai Tokkyo Koho JP 2003292853 A2 20031015, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-104714 20020408.
- AB The compns. contain **water**, **water**-soluble organic solvent, **water**-based dispersing agent (A) and a pigment (B), wherein A is either C4-22 alkylalkenyl-containing compound or a dispersing agent having softening point 70-150°, and B is selected from surface-treated pigment, a coloring wax with softening point 70-150° containing **water**-soluble dye with nitrogen, sulfonic acid, carboxylic acid, or chloride, and a coloring wax with softening point 70-150° and containing **water**-insol. dye and polar compound. Thus, mixing and heating 100 parts SMA 1000 with 50 parts XTJ 505 in 1000 parts acetone at 50° for 6 h, drying and pulverizing gave white powder containing A, 60 parts of which was mixed with diethylene glycol 10, isopropanol 3, **carbon black** (MA 100) 5, and **water** 60 parts to give a title composition
- IT 2118-39-0, C.I. Food Black 2
RL: TEM (Technical or engineered material use); USES (Uses)
(in **water**- and scratch-resistant ink-jet recording liquid compns. with good storage and discharge stability).

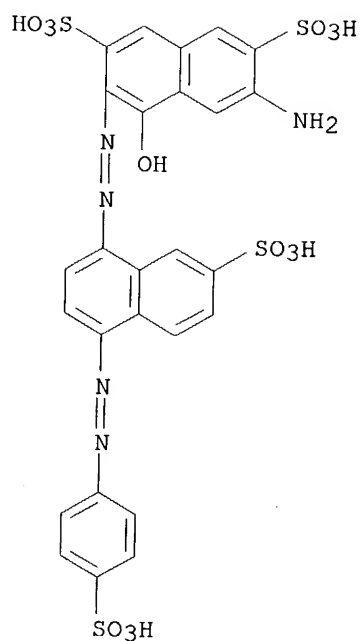
RN 2118-39-0 HCA
 CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulphophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

IC ICM C09D011-00
 ICS B41J002-01; B41M005-00
 CC 42-12 (Coatings, **Inks**, and Related Products)
 Section cross-reference(s): 74
 ST **water** based dispersing agent ink jet recording liq compn;
carbon black pigment coloring wax jet recording
 technique
 IT Dispersing agents
 Pigments, nonbiological
 (in **water**- and scratch-resistant ink-jet recording liquid
 compns. with good storage and discharge stability)
 IT Polyoxyalkylenes, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (in **water**- and scratch-resistant ink-jet recording liquid
 compns. with good storage and discharge stability)
 IT **Water**-resistant materials
 (jet-printing inks; **water**- and scratch-resistant ink-jet
 recording liquid compns. with good storage and discharge stability)
 IT Inks
 (jet-printing, **water**-resistant; **water**- and
 scratch-resistant ink-jet recording liquid compns. with good storage and
 discharge stability)
 IT Solvents
 (organic; in **water**- and scratch-resistant ink-jet recording liquid
 compns. with good storage and discharge stability)
 IT Ink-jet printing
 (using **water**- and scratch-resistant ink-jet recording liquid
 compns. with good storage and discharge stability)
 IT 83713-01-3, XTJ 505 106209-33-0, SMA 1000
 RL: NUU (Other use, unclassified); USES (Uses)

- (dispersing agent; in **water**- and scratch-resistant ink-jet recording liquid compns. with good storage and discharge stability)
- IT 56-81-5, Glycerin, uses 67-56-1, Methanol, uses 67-63-0, Isopropanol, uses 99-09-2, m-Nitroaniline 107-21-1, Ethylene glycol, uses 111-46-6, Diethylene glycol, uses 112-34-5, Diethylene glycol butyl ether 112-90-3, Oleylamine 124-30-1, Stearylamine 128-81-4, 1,4-Diamino-2,3-anthraquinonedicarboximide 872-50-4, N-Methylpyrrolidone, uses 1639-66-3, Sodium di-n-octyl sulfosuccinate 7146-67-0, N,N-Bis(2-hydroxyethyl)-p-toluenesulfonamide 9011-98-7, Poly(styrenesulfonic acid) ammonium salt 9084-06-4, Formaldehyde-naphthalenesulfonic acid copolymer sodium salt 16245-79-7, p-Octylaniline 25322-68-3, Polyethylene glycol 95461-65-7, Hexaglycerol monostearate 114881-10-6, 4-Amino-2,2,6,6-Tetramethylpiperazine 126169-53-7, 1-Dodecenesulfonic acid
- RL: NUU (Other use, unclassified); USES (Uses)
- (in **water**- and scratch-resistant ink-jet recording liquid compns. with good storage and discharge stability)
- IT 147-14-8, C.I. Pigment Blue 15-1 494-38-2, C.I. Solvent Orange 15 842-07-9, C.I. Solvent Yellow 14 980-26-7, C.I. Pigment Red 122 1330-38-7, C.I. Direct Blue 86 **2118-39-0**, C.I. Food Black 2 5850-86-2, C.I. Acid Orange 8 6408-57-7, C.I. Acid Green 27 6994-46-3, C.I. Solvent Blue 59 12221-28-2, C.I. Basic Black 8 12221-53-3, C.I. Basic Red 27 17354-14-2, C.I. Solvent Blue 35 79953-85-8, C.I. Pigment Yellow 128
- RL: TEM (Technical or engineered material use); USES (Uses)
- (in **water**- and scratch-resistant ink-jet recording liquid compns. with good storage and discharge stability)
- L22 ANSWER 3 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 139:293516 Ink sets and their use in ink-jet printing method. Kato, Ryuta; Yamashita, Yoshihisa; Miyazaki, Takeshi (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2003277657 A2 20031002, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-85824 20020326.
- AB The ink sets for giving black images with improved optical d. and feathering resistance and colored images with improved resistance to light and **water**, consist of (1) black inks containing anionic colorants and (2) colored inks containing cationic substances and having optical d. lower than the black inks, wherein the colored inks contain pigments as colorants. Thus, a black ink containing self-dispersing **carbon black** bearing C₆H₄-p-CO₂H and a colored ink containing polyallylamine, benzalkonium chloride, and **carbon black** dispersed with poly-N,N-dimethyl-3,5-methylenepiperidinium salt were jet in this order while forming time interval of 0.05-0.3 s on paper to give printed matter free of feathering.
- IT **2118-39-0**, C.I. Food Black 2
- RL: TEM (Technical or engineered material use); USES (Uses)
- (black ink containing; ink sets having anionic black inks and pigment-containing cationic colored inks for jet printing)
- RN **2118-39-0** HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

- IC ICM C09D011-00
ICS B41J002-01; B41M005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
Section cross-reference(s): **41**, 74
- ST anionic black ink jet printing; polyallylamine cationic colored ink jet printing; benzalkonium chloride cationic colored ink jet printing; **carbon black** pigment cationic colored ink jet printing
- IT **Carbon black**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pigment, colored ink containing; ink sets having anionic black inks and pigment-containing cationic colored inks for jet printing)
- IT **Carbon black**, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(reaction products with aminobenzoic acid, self-dispersing pigment, black ink containing; ink sets having anionic black inks and pigment-containing cationic colored inks for jet printing)
- IT **2118-39-0**, C.I. Food Black 2
RL: TEM (Technical or engineered material use); USES (Uses)
(black ink containing; ink sets having anionic black inks and pigment-containing cationic colored inks for jet printing)
- IT 150-13-ODP, reaction products with **carbon black**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(self-dispersing pigment, black ink containing; ink sets having anionic black inks and pigment-containing cationic colored inks for jet printing)
- L22 ANSWER 4 OF 42 HCA COPYRIGHT 2004 ACS on STN
138:305623 Recording liquid with good abrasion, **water** resistance, discharge and storage stability, and recording method. Takimoto, Hiroshi (Japan). Jpn. Kokai Tokkyo Koho JP 2003105235 A2 20030409, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-299250 20010928.
- AB Title liquid comprises **water**, **water** soluble organic solvent,

dyes and/or pigments, ≥ 2 carboxy or sulfonic acid group-containing nonresinous compds., and ≥ 2 oxazoline group-containing nonresinous compds. Thus, a composition with pH 10 comprised diethylene glycol 10, isopropanol 3, MA 100 **carbon black** 5, pamoic acid ammonium salt 5, and bisoxazoline 2 parts.

IT **2118-39-0**, C.I. Food Black 2

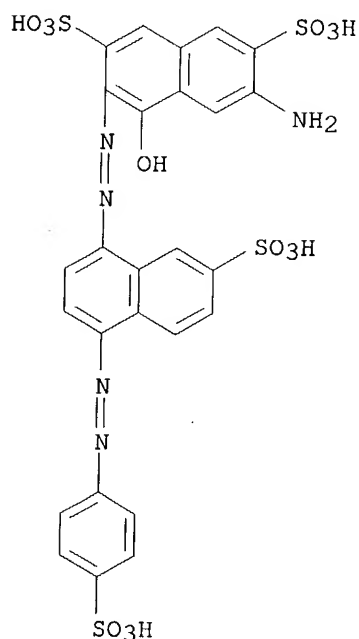
RL: TEM (Technical or engineered material use); USES (Uses)

(pigment; recording liquid containing carboxy or sulfonic acid group-containing

nonresinous compds. and oxazoline-containing nonresinous compds.)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

IC ICM C09D011-00

ICS B41J002-01; B41M005-00

CC 42-12 (Coatings, **Inks**, and Related Products)

ST recording liq abrasion **water** resistance discharge storage stability

IT **Carbon black**, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(MA 100, pigments; recording liquid containing carboxy or sulfonic acid group-containing nonresinous compds. and oxazoline-containing nonresinous compds.)

IT **Water-resistant materials**

(inks; recording liquid containing carboxy or sulfonic acid group-containing nonresinous compds. and oxazoline-containing nonresinous compds.)

IT **Water-resistant materials**

(jet-printing inks; recording liquid containing carboxy or sulfonic acid group-containing nonresinous compds. and oxazoline-containing nonresinous compds.)

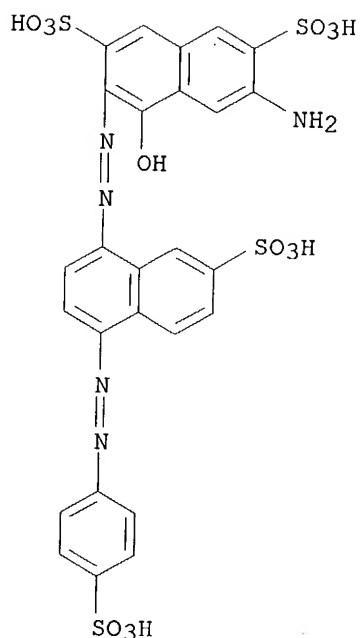
IT **Inks**

(jet-printing, **water-resistant**; recording liquid containing carboxy or sulfonic acid group-containing nonresinous compds. and

oxazoline-containing

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- nonresinous compds.)
- IT Inks
(~~water~~-resistant; recording liquid containing carboxy or sulfonic acid group-containing nonresinous compds. and oxazoline-containing nonresinous compds.)
- IT Polymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(~~water~~-soluble, dye salts; recording liquid containing carboxy or sulfonic acid group-containing nonresinous compds. and oxazoline-containing nonresinous compds.)
- IT 2118-39-0, C.I. Food Black 2 3071-73-6, C.I. Acid Black 24
3564-14-5, C.I. Mordant Black3 11099-03-9, C.I. Solvent Black 5
12221-28-2, C.I. Basic Black 8 54804-85-2, C.I. Direct Black 154
85631-88-5, C.I. Direct Black 168
RL: TEM (Technical or engineered material use); USES (Uses)
(pigment; recording liquid containing carboxy or sulfonic acid group-containing nonresinous compds. and oxazoline-containing nonresinous compds.)
- L22 ANSWER 5 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 138:273128 ~~Water~~-thinned ink set with controlled zirconium content for high-speed and high-quality jet-printing. Kobayashi, Isao; Nishibuchi, Sadatoshi; Nishio, Saori; Yoshisawa, Tomomi; Oka, Yasuhiro (Konica Co., Japan). Jpn. Kokai Tokkyo Koho JP 2003096351 A2 20030403, 21 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-286728 20010920.
- AB Title ink contains zirconium 10 ppb-30 ppm, preferably 1 ppm-10 ppm. The ink contains pigments having zeta potential of 40-70 mV, and have viscosity of 3.5-6.0 mPa.s.
- IT 2118-39-0, C.I. Food Black 2
RL: TEM (Technical or engineered material use); USES (Uses)
(~~water~~-thinned ink set with controlled zirconium content for high-speed and high-quality jet-printing)
- RN 2118-39-0 HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

- IC ICM C09D011-00
ICS B41J002-01; B41J002-045; B41J002-055; B41J002-21; B41M005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
Section cross-reference(s): 74
- IT **Inks**
(jet-printing, **water**-thinned; **water**-thinned ink set with controlled zirconium content for high-speed and high-quality jet-printing)
- IT **Carbon black**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**water**-thinned ink set with controlled zirconium content for high-speed and high-quality jet-printing)
- IT 147-14-8, C.I. Pigment Blue 15:3 980-26-7, C.I. Pigment Red 122 1934-21-0, C.I. Acid Yellow 23 **2118-39-0**, C.I. Food Black 2 5153-24-2, Zirconyl acetate 12222-04-7, C.I. Direct Blue 199 12222-51-4, C.I. Direct Red 227 79953-85-8, C.I. Pigment Yellow 128
RL: TEM (Technical or engineered material use); USES (Uses)
(**water**-thinned ink set with controlled zirconium content for high-speed and high-quality jet-printing)
- L22 ANSWER 6 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 138:256689 **Water**-based ink-jet ink composition concerning **water** content and saturation viscosity. Taniguchi, Akihiko; Tsuda, Masashi; Higashiyama, Shunichi; Fujioka, Masaya (Brother Kogyo Kabushiki Kaisha, Japan). Eur. Pat. Appl. EP 1295917 A1 20030326, 18 pp.
DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK.
(English). CODEN: EPXXDW. APPLICATION: EP 2002-21291 20020919.
PRIORITY: JP 2001-285173 20010919.
- AB An ink-jet recording ink exhibiting satisfactory jetting stability when the ink is normally used, and easily restored to give a normal jetting state even after undergoing an abnormal condition, for example, when the ink is left to stand without any nozzle cap, satisfies $Y \leq 4.5e0.09X$, wherein X is the amount of **water** in the ink in % by weight

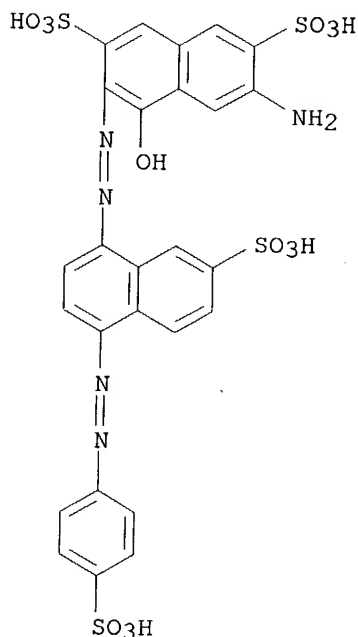
and Y is the saturation viscosity. The saturation viscosity Y is a viscosity (mPa.s) obtained when an ink residual liquid, which is obtained by evaporating volatile components of the ink until a change in weight of the ink is less than 0.05 g/day per 50 g of ink under a condition of a temperature of 60 °C and a humidity of 40%, is cooled to a temperature of 25 °C in an environment of a humidity of 40 %, and X satisfies $50 \leq X \leq 75$.

IT 2118-39-0, Food Black 2

RL: TEM (Technical or engineered material use); USES (Uses)
(**water**-based ink-jet ink composition)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

IC ICM C09D011-00

CC 42-12 (Coatings, **Inks**, and Related Products)

ST inkjet ink compn **water** content satn viscosity

IT Amines, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(ethoxylated; **water**-based ink-jet ink composition)

IT Inks

(jet-printing, **water**-thinned; composition)

IT **Carbon black**, uses

Polyoxyalkylenes, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(**water**-based ink-jet ink composition)

IT 56-81-5, Glycerol, uses 111-46-6, Diethylene glycol, uses 112-35-6, Triethylene glycol monomethyl ether 143-22-6, Triethylene glycol monobutyl ether 616-45-5, 2-Pyrrolidone 989-38-8, Basic Red 1 1934-21-0, Acid Yellow 23 2118-39-0, Food Black 2 2634-33-5, Proxel XL-2 2650-18-2, Acid Blue 9 3520-42-1, Acid Red 52 6428-31-5, Direct Black 19 9003-39-8, Polyvinyl pyrrolidone 12220-28-9, Acid Red 289 12222-04-7, Direct Blue 199 25322-68-3, Polyethylene glycol 37279-54-2, C.I. Direct Violet 48 39393-39-0, Basic Violet 11:1

50925-42-3, Direct Yellow 86 61968-26-1, Direct Yellow 132
 RL: TEM (Technical or engineered material use); USES (Uses)
 (water-based ink-jet ink composition)

L22 ANSWER 7 OF 42 HCA COPYRIGHT 2004 ACS on STN

138:239506 Recording liquids with no feathering and color boundary blurring, and high image concentration. Murakami, Kakuji; Hirose, Takesada; Kaneko, Tetsuya; Oyano, Masayuki; Kimura, Shigeaki; Moroboshi, Naoya (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003082265 A2 20030319, 20 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-281061 20010917.

AB Title liqs. comprising colorants are used for image formation method comprising (i) mixing the recording liqs. with treatment liqs. containing reactive components which reacts with reactive components in the recording liqs. on transcripts and (ii) transferring the mixture on printing medium. Thus, a treatment liquid comprising dicyandiamide resin 15, dimethyldodecylbenzylammonium chloride 3, glycerin 20, polyethylene glycol alkyl ether 5, N-methyl-2-pyrrolidone 20, 1,6-hexanediol 15, and sodium dihydroacetate 1%, and water filled in a roller for a pretreatment liquid and a recording liquid (pH 10.5) comprising yellow recording liquid, magenta recording liquid, cyan recording liquid, and black recording liquid filled in an ink-jet head for image recording were used for image printing on a com. copy paper using an intermediate transcript for mixing recording liquid and treatment liquid, showing good black image concentration,

no color boundary blurring, no feathering, no back side coming out of β -image, and no mudcracking.

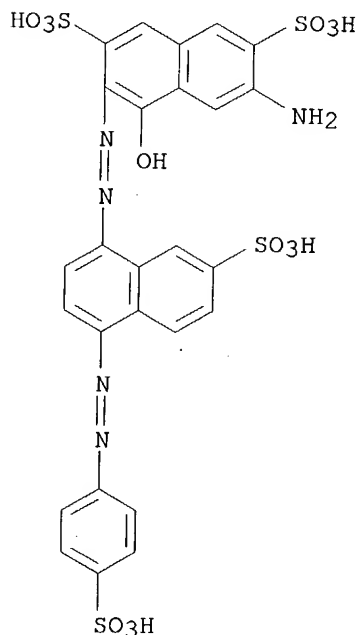
IT 2118-39-0, C.I. Food Black 2

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(pigment; recording liqs. containing reactive components)

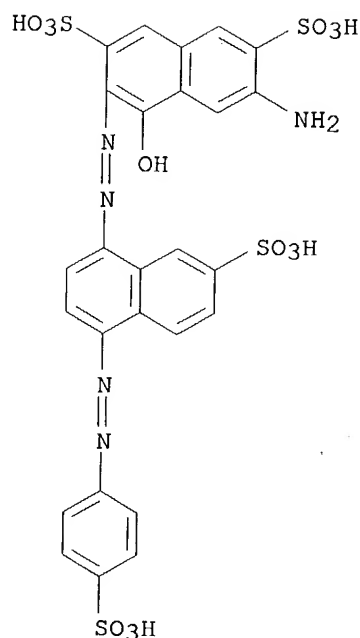
RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



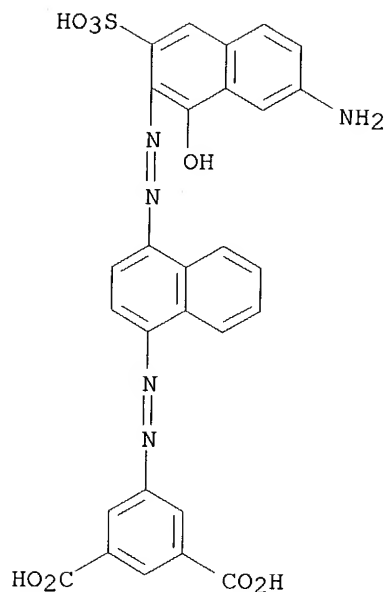
● 4 Na

- IC ICM C09D011-00
ICS B41J002-01; B41M005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
- IT **Carbon black**, uses
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(pigment; recording liqs. containing reactive components)
- IT Polymers, uses
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**water**-soluble, reactive components; recording liqs. containing reactive components)
- IT 147-14-8, C.I. Pigment Blue 15:3 980-26-7, C.I. Pigment Red 122
1934-21-0, C.I. Acid Yellow 23 **2118-39-0**, C.I. Food Black 2
2650-18-2, C.I. Acid Blue 9 3520-42-1, C.I. Acid Red 52 6358-31-2,
C.I. Pigment Yellow 74 12222-04-7, C.I. Direct Blue 199 27360-85-6,
C.I. Acid Blue 249 71902-08-4, C.I. Direct Yellow 142 79953-85-8, C.I.
Pigment Yellow 128 89591-44-6, C.I. Acid Red 254 98114-32-0, C.I.
Reactive Red 180 163294-23-3, Pro-Jet Fast Black 2 187285-14-9,
Pro-Jet Fast Cyan 2
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(pigment; recording liqs. containing reactive components)
- L22 ANSWER 8 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 138:138947 Storage-stable jet recording inks and image recording methods.
Hosoi, Yuji (Konica Co., Japan). Jpn. Kokai Tokkyo Koho JP 2003041167 A2
20030213, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-229396
20010730.
- AB Inks contain black pigments, **water**-soluble resins, **aqueous**
media, buffer solns., and 1-5% organic solvents having affinity for
water at 101.3 kPa/23° and have b.ps. >150° at 101.3
kPa. Thus, an ink contained a dispersion (**carbon black**
, acrylic acid-Et acrylate-styrene copolymer) 30, iso-PrOH 5, a buffer
solution [tris(hydroxymethyl)aminomethane] 45, H2O 12 parts, and 1%
diethylene glycol.
- IT **2118-39-0**, C.I. Food Black 2
RL: TEM (Technical or engineered material use); USES (Uses)
(C.I. Food Black 2; jet recording inks containing pigments and polymers and
buffer solns. and solvents)
- RN 2118-39-0 HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-
sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX
NAME)



● 4 Na

- IC ICM C09D011-00
ICS B41J002-01; B41M005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
- ST jet printing ink **carbon black** vinyl polymer; buffer
soln solvent jet printing ink
- IT **Carbon black**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(MCF 88; jet recording inks containing pigments and polymers and buffer
solns. and solvents)
- IT **2118-39-0**, C.I. Food Black 2
RL: TEM (Technical or engineered material use); USES (Uses)
(C.I. Food Black 2; jet recording inks containing pigments and polymers and
buffer solns. and solvents)
- L22 ANSWER 9 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 138:57603 Jet-printing inks with good storage stability, their printing
method, and printing apparatus. Nagai, Kiyofumi; Arita, Hitoshi; Konishi,
Akiko (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002371207 A2
20021226, 29 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-179276
20010613.
- AB The inks comprise colorants, organic solvents for dispersing or dissolving
the colorants, **water**, and 3-hydroxyquinuclidine (I). Thus, a
jet-printing ink composition containing sodium hypochlorite-treated **carbon
black** dispersion, I, tetramethylammonium hydroxide, glycerol,
N-hydroxyethylpyrrolidone, 2-ethyl-1,3-hexanediol, and
CH₃(CH₂)₁₂O(CH₂CH₂O)₄CH₂CO₂H gave clear images with good **water**
and light resistance.
- IT **175466-25-8**
RL: TEM (Technical or engineered material use); USES (Uses)
(anionic dye; jet-printing inks with good storage stability)
- RN 175466-25-8 HCA
- CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-
naphthalenyl)azo]-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



- IC ICM C09D011-00
ICS B41J002-01; B41M005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
Section cross-reference(s): 74
- ST hydroxyquinuclidine ink jet printing **water** base; polyoxyethylene glycerol hydroxyethylpyrrolidone ethylhexanediol **carbon black** ink
- IT **Carbon black**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(chemical treated; jet-printing inks with good storage stability)
- IT Light-resistant materials
Water-resistant materials
(inks; jet-printing inks with good storage stability)
- IT Inks
(jet-printing, **water**-thinned; jet-printing inks with good storage stability)
- IT Inks
(**water**-resistant; jet-printing inks with good storage stability)
- IT 6359-98-4, C.I. Acid Yellow 17 25712-08-7 34175-08-1
175466-25-8 214358-00-6 244630-40-8 357341-75-4
479197-83-6 479197-84-7 479197-87-0 479197-89-2
RL: TEM (Technical or engineered material use); USES (Uses)
(anionic dye; jet-printing inks with good storage stability)
- L22 ANSWER 10 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 137:377458 Ink jet recording method and apparatus using controlled ink. Yamashita, Kunikazu; Suzuki, Atsushi; Yui, Toshitaka (Fuji Xerox Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002331739 A2 20021119, 20 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-138266 20010509.
- AB The method for recording by jetting an ink ≤ 20 ng/drop essentially containing at least a pigment self-dispersible in **water**, **water** soluble organic solvent, and **water**, satisfies the following conditions: (a) dynamic contact angle is $\leq 60^\circ$ after 1 s when 4 μ L ink is dropped; (b) pigment concentration in the ink is 3-20 weight%; (c) volume average diameter of the pigment particle in the ink is

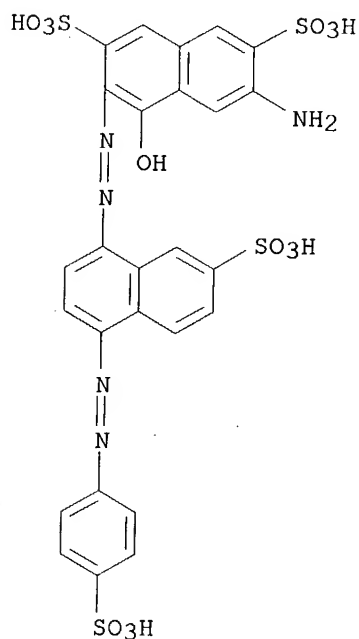
150-250 nm; and (d) the number of particles with 0.5-5 μm diameter is $50 + 104/\mu\text{L}$ to $2000 + 104/\mu\text{L}$ and the number of particles with diameter $\geq 5 \mu\text{m}$ is $\leq 100/\mu\text{L}$ in the pigment dispersion. The apparatus comprising devices for conveying a recording material, jetting the ink $\leq 20 \text{ ng/drop}$, and providing image information to the head, satisfies the (a) to (d) conditions. They prevent bleeding, optical d. variation, and head clogging, showing improved **water** resistance, light stability, and fixability.

IT 2118-39-0, C.I. Food Black 2

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(dye; ink-jet printing using ink containing particle size-controlled pigment)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulphophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

IC ICM B41M005-00

ICS B41M005-00; B41J002-01; C09D011-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 42

IT **Carbon black**, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(CW 2; ink-jet printing using ink containing particle size-controlled pigment)

IT 2118-39-0, C.I. Food Black 2

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(dye; ink-jet printing using ink containing particle size-controlled pigment)

L22 ANSWER 11 OF 42 HCA COPYRIGHT 2004 ACS on STN

137:249266 Ink composition containing stimuli-responsive polymer,

image-forming method, printing apparatus, and a recording medium.
 Nakazawa, Ikuo; Sato, Koichi; Suda, Sakae; Ikegami, Masayuki (Canon Kabushiki Kaisha, Japan). Eur. Pat. Appl. EP 1243624 A1 20020925, 30 pp.
 DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR. (English). CODEN: EPXXDW. APPLICATION: EP 2002-6481 20020322. PRIORITY: JP 2001-86239 20010323; JP 2001-209923 20010710; JP 2002-74975 20020318.

AB The title ink with superior dispersion stability relates to a stimuli-responsive composition that contains a (block) polymer e.g. polyvinyl ether, a solvent such as **H₂O**, and a substance having a predetd. function, e.g. pigment. An example ink contained C black (Mogul L) 5, 2-ethoxyethyl vinyl ether-2-methoxyethyl vinyl ether block copolymer 4, diethylene glycol 4, polyethylene glycol 2, surfactant 0.2 parts, and the balance **water**. The polymer responds to stimulation by changes in temperature, electromagnetic radiation, pH, and concentration

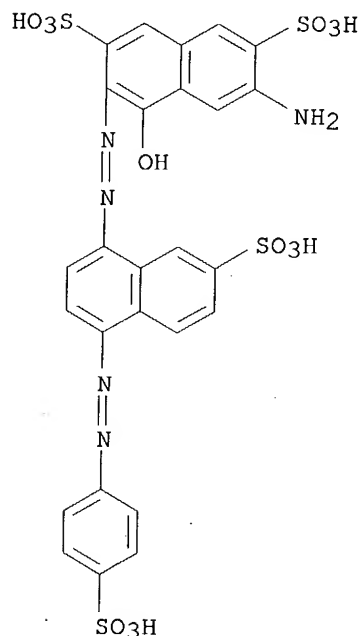
IT **2118-39-0**, C.I.Food Black 2

RL: TEM (Technical or engineered material use); USES (Uses)

(ink composition containing stimuli-responsive polymer for improved blurring, feathering, image fixability, and pigment dispersibility)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

IC ICM C09D011-00

ICS C09D011-10

CC 42-12 (Coatings, **Inks**, and Related Products)

ST **carbon black** ink ethoxyethyl methoxyethyl vinyl ether block copolymer

IT **Carbon black**, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(ink composition containing stimuli-responsive polymer for improved blurring, feathering, image fixability, and pigment dispersibility)

IT Inks

(jet-printing, **water**-thinned; ink composition containing stimuli-responsive polymer for improved blurring, feathering, image fixability, and pigment dispersibility)

IT **2118-39-0**, C.I.Food Black 2 12221-43-1, C.I.Basic blue 75

RL: TEM (Technical or engineered material use); USES (Uses)

(ink composition containing stimuli-responsive polymer for improved blurring, feathering, image fixability, and pigment dispersibility)

L22 ANSWER 12 OF 42 HCA COPYRIGHT 2004 ACS on STN

136:264651 Liquid composition for ink-jet inks. Katsuragi, Ryuji; Shioya, Makoto; Yokoi, Hideto (Canon Kabushiki Kaisha, Japan). Eur. Pat. Appl. EP 1191077 A1 20020327, 56 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2001-122858 20010924. PRIORITY: JP 2000-290559 20000925; JP 2000-292968 20000926.

AB A liquid composition for ink-jet recording, or an ink set for ink-jet recording which produces an image having **water** resistance and excellent print quality, and which can reduce color bleeding that occurs in formation of color images, and furthermore, which can extend a life-span of ink-jet recording heads, as well as an ink-jet recording method, a recording unit, an ink cartridge and an ink-jet recording apparatus are provided. The liquid composition or a color ink constituting the ink set comprising a polyvalent metal salt, a material selected from the group consisting of acids including amino groups and salts thereof, and a liquid medium is used.

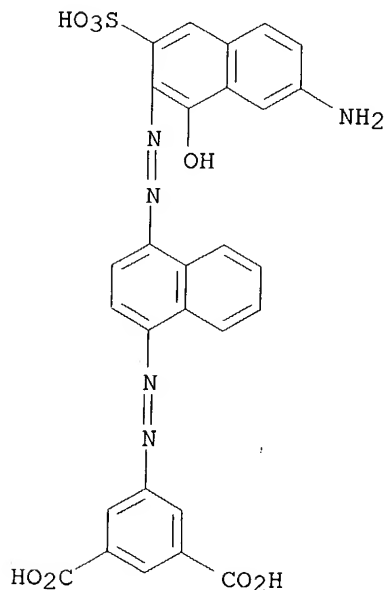
IT **175466-25-8D**, alkali metal, ammonium and amine salts

RL: TEM (Technical or engineered material use); USES (Uses)

(liquid composition for ink-jet inks)

RN 175466-25-8 HCA

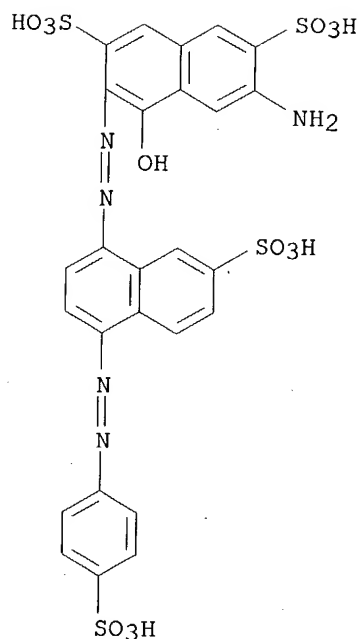
CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



IC ICM C09D011-00

ICS B41J002-175; B41J002-21; B41M005-00

- CC 42-12 (Coatings, **Inks**, and Related Products)
- IT **Carbon black**, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (liquid composition for ink-jet inks)
- IT 56-40-6, Glycine, uses 56-41-7, Alanine, uses 56-84-8, Aspartic acid, uses 56-86-0, Glutamic acid, uses 62-54-4, Calcium acetate 107-35-7, Taurine 142-71-2, Copper(II) acetate 142-72-3, Magnesium acetate 147-14-8, C.I. Pigment Blue 15:3 147-14-8D, triazine-sulfo derivs. 299-28-5, Calcium gluconate 299-29-6 463-77-4, Carbamic acid, uses 527-09-3, Copper(II) gluconate 543-80-6, Barium acetate 557-34-6, Zinc acetate 927-20-8, Magnesium glycerophosphate 980-26-7, C.I. Pigment Red 122 1934-21-0, C.I. Acid Yellow 23 2650-18-2, C.I. Acid Blue 9 3094-87-9, Iron(II) acetate 3251-23-8, Copper(II) nitrate 3632-91-5, Magnesium gluconate 4468-02-4, Zinc gluconate 5329-14-6, Sulfamic acid 5580-57-4, C.I. Pigment Yellow 93 7779-88-6, Zinc nitrate 10022-31-8, Barium nitrate 10124-37-5, Calcium nitrate 10377-60-3, Magnesium nitrate 12220-28-9, C.I. Acid Red 289 13881-91-9, Aminomethanesulfonic acid 14013-86-6, Iron nitrate 22561-74-6 27214-00-2, Calcium glycerophosphate 163212-03-1D, alkali metal, ammonium and amine salts **175466-25-8D**, alkali metal, ammonium and amine salts 186795-54-0D, alkali metal, ammonium and amine salts
 RL: TEM (Technical or engineered material use); USES (Uses)
 (liquid composition for ink-jet inks)
- L22 ANSWER 13 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 136:38994 Ink-jet ink, ink cartridge and ink-jet recording process using the same. Suzuki, Mariko; Koike, Shoji (Canon Kabushiki Kaisha, Japan). Eur. Pat. Appl. EP 1164175 A2 20011219, 18 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2001-114342 20010613. PRIORITY: JP 2000-179702 20000615.
- AB The ink-jet ink comprises 10-40% of components: diethylene glycol, at least one of trimethylolpropane and ethyleneurea, a glycol having a vapor pressure lower than that of diethylene glycol at 20°, a coloring material, and **water**. The ink cartridge has a thermally activated head to eject the ink, a receptacle to collect ejected ink, a conduit and pump to return the ink to the main cartridge reservoir. The ink composition is stable even upon ejection recovery.
- IT **2118-39-0**, Food Black 2
 RL: TEM (Technical or engineered material use); USES (Uses)
 (stable ink-jet ink composition for use in jet printers with ejection recovery receptacle in cartridge printing head)
- RN 2118-39-0 HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulphophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

IC ICM C09D011-00

ICA B41J002-01

CC 42-12 (Coatings, **Inks**, and Related Products)

Section cross-reference(s): 74

IT **Carbon black**, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(sulfonated; stable ink-jet ink composition for use in jet printers with ejection recovery receptacle in cartridge printing head)

IT 77-99-6, Trimethylolpropane 111-46-6, Diethylene glycol, uses
112-27-6, Triethylene glycol 112-60-7, Tetraethylene glycol 120-93-4, Ethyleneurea 632-68-8, C.I. Acid Red 94 **2118-39-0**, Food Black 2 2650-18-2, Acid Blue 9 7732-18-5, **Water**, uses
12222-04-7, Direct Blue 199 25322-68-3, Poly(ethylene glycol) 50925-42-3, Direct Yellow 86 112602-73-0D, alkali metal salts 197980-83-9, Acid Yellow 132 222961-29-7, Cabojet 200

RL: TEM (Technical or engineered material use); USES (Uses)
(stable ink-jet ink composition for use in jet printers with ejection recovery receptacle in cartridge printing head)

L22 ANSWER 14 OF 42 HCA COPYRIGHT 2004 ACS on STN

135:350588 Liquid composition, ink set for ink-jet printing, ink-jet printing method, printing unit and apparatus. Katsuragi, Takashi; Shiotani, Makoto (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2001310545 A2 20011106, 33 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-47941 20010223. PRIORITY: JP 2000-52171 20000223; JP 2000-52172 20000223.

AB The liquid composition contains a liquid medium and a polyol phosphate polyvalent

metal salt and reacts on contacting with a color ink. Images are formed by ink-jet printing by (1) jetting the liquid composition and color ink on the receptor by applying energy and (2) contacting the liquid composition and the color ink on the receptor. The ink set comprise the liquid composition and the color ink containing a colorant. The printing unit and the apparatus comprises a

container for the liquid composition, a container for the color ink, and a

printing heads for jetting the composition or the ink. The ink set may comprise (a) a color ink containing a colorant, a liquid medium, and the polyol phosphate polyvalent metal salt and (b) a black ink containing a colorant and a liquid medium and reacts with the color ink on contacting. Bleeding is prevented and clear images with good **water** resistance are obtained.

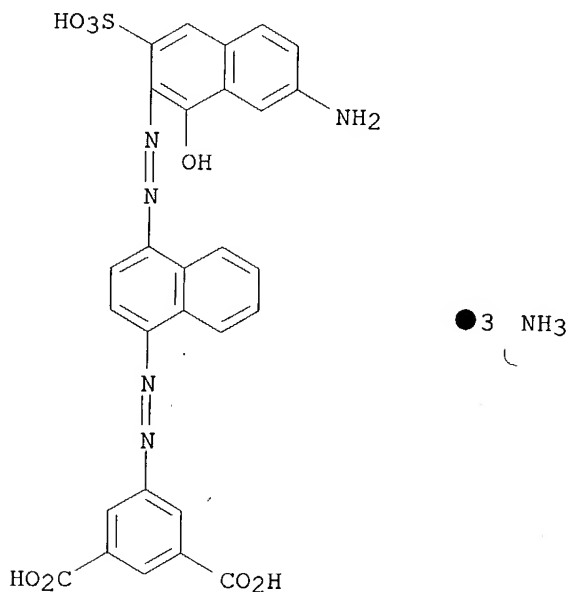
IT **160943-34-0**

RL: TEM (Technical or engineered material use); USES (Uses)

(ink-jet printing ink comprising color ink and liquid composition containing polyol phosphate metal salt)

RN 160943-34-0 HCA

CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-1-naphthalenyl]azo]-, triammonium salt (9CI) (CA INDEX NAME)



IC ICM B41M005-00

ICS B41M005-00; B41J002-01; C09D011-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 42

IT **Carbon black**, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(ink-jet printing ink comprising color ink and liquid composition containing polyol phosphate metal salt)

IT 147-14-8, C.I. Pigment Blue 15:3 147-14-8D, Copper phthalocyanine, sulfo derivs., salts 980-26-7, C.I. Pigment Red 122 5580-57-4, C.I. Pigment Yellow 93 140668-43-5 151956-36-4 **160943-34-0**

RL: TEM (Technical or engineered material use); USES (Uses)

(ink-jet printing ink comprising color ink and liquid composition containing polyol phosphate metal salt)

L22 ANSWER 15 OF 42 HCA COPYRIGHT 2004 ACS on STN

135:182187 Method of reducing kagation of heater of ink-jet recording head, ink-jet recording, ink-jet recording apparatus, and ink jet ink. Shioya, Makoto; Katsuragi, Ryuji (Canon Kabushiki Kaisha, Japan). Eur. Pat. Appl. EP 1125993 A2 20010822, 39 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK,

ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO.
(English). CODEN: EPXXDW. APPLICATION: EP 2001-103747 20010215.
PRIORITY: JP 2000-45075 20000217; JP 2000-125481 20000426; JP 2000-125482 20000426.

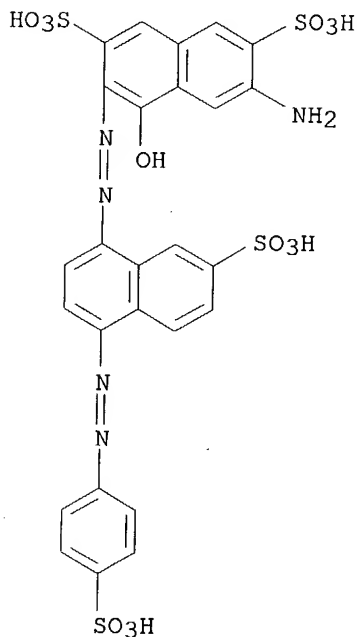
AB An ink for ink-jet recording comprises (a) a coloring material, (b) a liquid medium, and (c) an ammonium salt of an acid having a Me or methylene group and a carboxylic group, or an ammonium aldinate, or an ammonium salt of citric acid, to alleviate kogation of the ink-jet head heater having an outermost protecting layer containing ≥ 1 of a metal and a metal oxide. An example ink contained Projet Fast Black 2 2, diethylene glycol 10, ammonium lactate (50%) 4, ammonia **water** (28%) 0.3, and **water** 83.7 parts.

IT **2118-39-0**, C.I. Food Black 2

RL: TEM (Technical or engineered material use); USES (Uses)
(kogation resistant **water**-thinned jet-printing inks containing ammonium salts for print heads)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

IC ICM C09D011-00

ICS B41J002-14

CC 42-12 (Coatings, **Inks**, and Related Products)

IT Inks

(jet-printing, **water**-thinned; kogation resistant **water**-thinned jet-printing inks containing ammonium salts for print heads)

IT Ink-jet printer heads

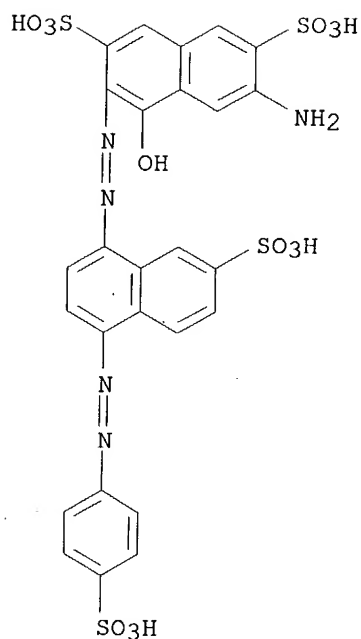
(kogation resistant **water**-thinned jet-printing inks containing ammonium salts for print heads)

IT **Carbon black**, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(kogation resistant **water**-thinned jet-printing inks containing ammonium salts for print heads)

- IT 515-98-0, Ammonium lactate 2226-88-2, Diammonium succinate 3012-65-5, Diammonium citrate 3458-72-8, Triammonium citrate 4450-94-6, Monoammonium citrate 19222-41-4, Ammonium gluconate 23705-99-9, Diammonium maleate 100897-12-9 130296-88-7 .
RL: MOA (Modifier or additive use); USES (Uses)
(kagation resistant **water**-thinned jet-printing inks containing ammonium salts for print heads)
- IT 147-14-8, C.I. Pigment Blue 15:3 980-26-7, C.I. Pigment Red 122 2118-39-0, C.I. Food Black 2 5580-57-4, C.I. Pigment Yellow 93 12222-04-7, C.I. Direct Blue 199 98114-32-0, C.I. Reactive Red 180 163294-23-3, Projet Fast Black 2 187285-14-9, Projet Fast Cyan 2 187285-15-0, Projet Fast Magenta 2 187285-16-1, Projet Fast Yellow 2
RL: TEM (Technical or engineered material use); USES (Uses)
(kagation resistant **water**-thinned jet-printing inks containing ammonium salts for print heads)
- L22 ANSWER 16 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 135:123960 Ink-jet printing method and apparatus. Moriyama, Jiro; Hirabayashi, Hiromitsu; Tajika, Hiroshi; Inui, Toshiharu; Kurabayashi, Yutaka; Sugimoto, Hitoshi; Kato, Masao; Kato, Minako (Canon Kabushiki Kaisha, Japan). U.S. US 6264320 B1 20010724, 30 pp. (English). CODEN: USXXAM. APPLICATION: US 1996-597716 19960212. PRIORITY: JP 1995-23572 19950213; JP 1996-16924 19960201.
- AB In a pigmented ink, reaction between the printing quality improving liquid and the coloring agent (before penetrating into a printing medium) causes the ink to be insol. or coagulated. The apparatus comprises an ejection controller for controlling contact of the printing quality improving liquid (liquid) and the ink on the same position or adjacent positions on the printing medium, at different times, so that an amount of the liquid ejected to the printing medium area is less than an amount of the ink ejected to same area, a time interval between times for ejection of the liquid and for ejection of the ink being set within 200 ms during which at least part of the liquid and ink which is ejected at an earlier time remains on a surface of the printing medium. After ejecting the printing quality improving liquid from a head, Black ink, Yellow ink, Magenta ink and Cyan ink are ejected through heads within a given period, e.g. 500 ms.
- IT 2118-39-0, C.I. Food Black 2
RL: TEM (Technical or engineered material use); USES (Uses)
(efficient ink-jet printing of mono- or polychromatic inks with dye insolubilization by printing quality improving liquid and prints with high d., uniform hue, **water** resistance and no feathering)
- RN 2118-39-0 HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulphophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

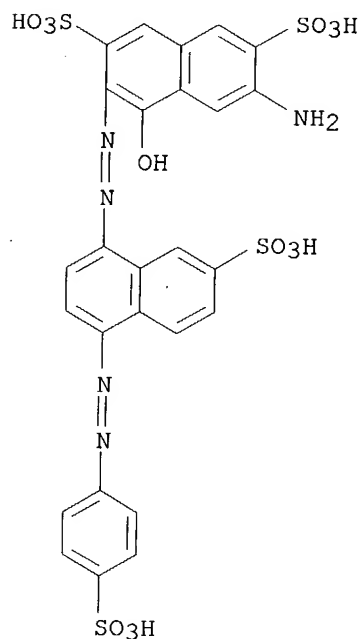
- IC ICM B41J002-01
 NCL 347101000
 CC 42-12 (Coatings, **Inks**, and Related Products)
 ST ink jet printing **water** resistance print; combination ink liq com
 printing app
 IT Quaternary ammonium compounds, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (alkylbenzyltrimethyl, chlorides, in quality improving liquid; efficient
 ink-jet printing of mono- or polychromatic inks with dye
 insolubilization by printing quality improving liquid and prints with
 high d., uniform hue, **water** resistance and no feathering)
 IT Ink-jet printing
 Printing apparatus
 (efficient ink-jet printing of mono- or polychromatic inks with dye
 insolubilization by printing quality improving liquid and prints with
 high d., uniform hue, **water** resistance and no feathering)
 IT **Carbon black**, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (efficient ink-jet printing of mono- or polychromatic inks with dye
 insolubilization by printing quality improving liquid and prints with
 high d., uniform hue, **water** resistance and no feathering)
 IT 147-14-8, C.I. pigment Blue 15:3 980-26-7, C.I. pigment Red 122
2118-39-0, C.I. Food Black 2 12220-28-9, Acid Red 289
 12222-04-7, C.I. Direct Blue 199 71902-08-4, C.I. Direct Yellow 142
 77804-81-0, C.I. pigment Yellow 180
 RL: TEM (Technical or engineered material use); USES (Uses)
 (efficient ink-jet printing of mono- or polychromatic inks with dye
 insolubilization by printing quality improving liquid and prints with
 high d., uniform hue, **water** resistance and no feathering)

L22 ANSWER 17 OF 42 HCA COPYRIGHT 2004 ACS on STN

133:194793. Recording inks and ink recording devices. Ueda, Takamasa; Tabata,
 Kenichi; Ueda, Noboru; Osawa, Mochikiyo (Minolta Camera Co., Ltd., Japan).
 Jpn. Kokai Tokkyo Koho JP 2000239588 A2 20000905, 10 pp. (Japanese).

CODEN: JKXXAF. APPLICATION: JP 1999-277862 19990930. PRIORITY: JP 1998-363599 19981222.

- AB Inks contain light resistance improving agents, which are coated with continuously releasable coating materials. Thus, a black ink contained C.I. Food Black 2 10, diethylene glycol 3, glycerin 13, triethylene glycol mono-Bu ether 4, a surfactant 0.2, H₂O 67.3, and a gelatin-microencapsulated BHT dispersion 2.5 parts 2.5 parts.
- IT **2118-39-0**, C.I. Food Black 2
 RL: TEM (Technical or engineered material use); USES (Uses)
 (recording inks containing dyes and pigments and microencapsulated light stabilizers)
- RN 2118-39-0 HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



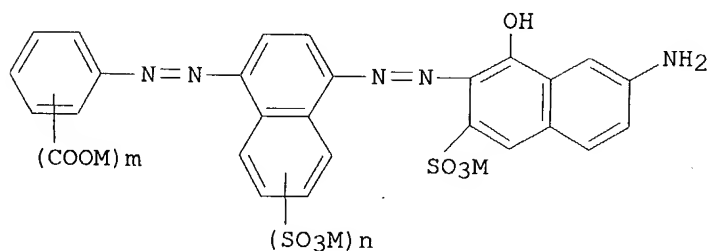
● 4 Na

- IC ICM C09D011-00
 ICS B41J002-01; B41M005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
- IT **Carbon black**, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (R 250; recording inks containing dyes and pigments and microencapsulated light stabilizers)
- IT 147-14-8, Pigment Blue 15 1330-38-7, C.I. Direct Blue 86
2118-39-0, C.I. Food Black 2 6471-51-8, Pigment Red 7
 12220-28-9, C.I. Acid Red 289 12220-70-1, C.I. Acid Yellow 79
 12222-04-7, C.I. Direct Blue 199 50925-42-3, C.I. Direct Yellow 86
 61951-82-4, C.I. Reactive Red 120 252281-58-6, Bayscript Black BK-SP
 Liquid
 RL: TEM (Technical or engineered material use); USES (Uses)
 (recording inks containing dyes and pigments and microencapsulated light stabilizers)

L22 ANSWER 18 OF 42 HCA COPYRIGHT 2004 ACS on STN
 132:349110 Black ink composition for ink-jet recording. Kato, Shinichi (Seiko

Epson Corporation, Japan). Eur. Pat. Appl. EP 1002839 A1 20000524, 18 pp.
 DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL,
 SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW.
 APPLICATION: EP 1999-118555 19990920. PRIORITY: JP 1998-331028 19981120;
 JP 1999-189400 19990702.

GI



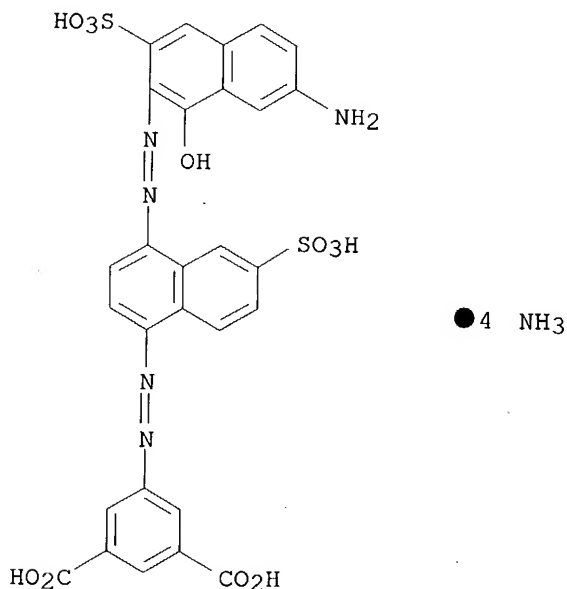
AB The composition comprises at least **carbon black** (MA 7), a black dye, a **water**-soluble organic solvent, and **H2O**; wherein the black dye is selected from I (M = cation of a group selected from the group consisting of a H, alkali metal, ammonia, organic amine; m = 1,2; n = 0, 1), C.I. Direct Black 154, or C.I Direct Black 168.

IT 128351-36-0 160943-34-0

RL: MOA (Modifier or additive use); USES (Uses)
 (black ink composition for ink-jet recording)

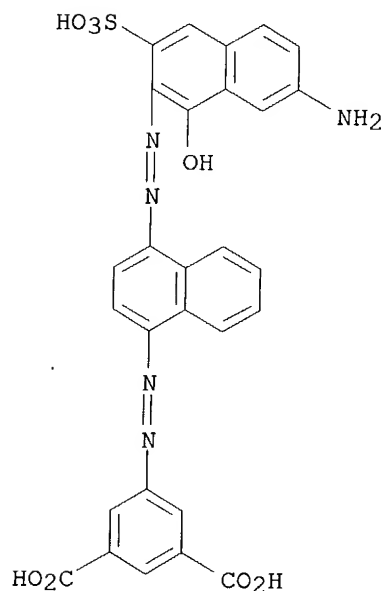
RN 128351-36-0 HCA

CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]-, tetraammonium salt (9CI)
 (CA INDEX NAME)



RN 160943-34-0 HCA

CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-1-naphthalenyl]azo]-, triammonium salt (9CI) (CA INDEX NAME)



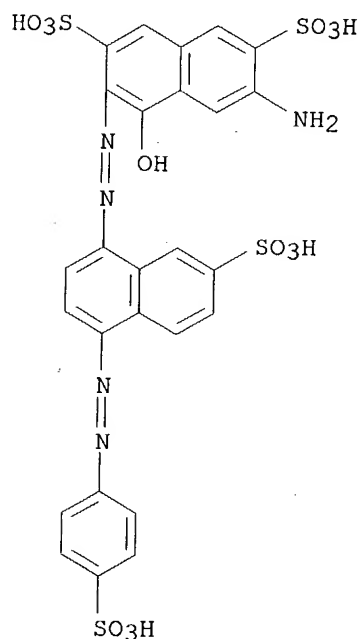
● 3 NH₃

- IC ICM C09D011-00
 CC 42-12 (Coatings, Inks, and Related Products)
 ST ink jet recording black dye; **carbon black** recording dye; ammonium naphthalenesulfonate black dye ink
 IT **Carbon black**, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (black ink composition for ink-jet recording)
 IT Inks
 (jet-printing, **water**-thinned; black ink composition for ink-jet recording)
 IT 54804-85-2, C.I. Direct Black 154 85631-88-5, C.I. Direct Black 168
128351-36-0 160943-34-0
 RL: MOA (Modifier or additive use); USES (Uses)
 (black ink composition for ink-jet recording)
 L22 ANSWER 19 OF 42 HCA COPYRIGHT 2004 ACS on STN
 132:295249 **Aqueous** ink-jet ink compositions and printing process therewith. Hayashi, Hiroko (Seiko Epson Corporation, Japan). PCT Int. Appl. WO 2000022056 A1 20000420, 42 pp. DESIGNATED STATES: W: JP, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1999-JP5711 19991015. PRIORITY: JP 1998-294170 19981015.
 AB Title anticlogging ink compns., which gave sharp prints with smudge prevention under a steady and continuous process, comprise **water**, **water**-soluble organic solvents, pigments, 1,2-alkanediols, glycerol, and polyhydric alc. derivs. and/or acetylene glycol surfactants and show a 20° surface tension (ST) of ≤40 mN/m. An **aqueous** ink containing HClO₄-treated **carbon black** 6, Surfynol 465 1, diethylene glycol mono-Bu ether 5, 1,2-hexanediol 3, glycerol 15, diethylene glycol 5, and triethanolamine 0.8 part showed a ST of 31.4 mN/m.
 IT **2118-39-0**, Food black 2

RL: TEM (Technical or engineered material use); USES (Uses)
 (aqueous ink-jet inks containing 1,2-alkanediols and glycerol and
 polyol(derivs.) and/or acetylene glycol surfactants)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulphophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

IC ICM C09D011-00

CC 42-12 (Coatings, Inks, and Related Products)

ST **aq** jet printing ink dialkanol glycerol; polyol ether **aq** jet printing ink; acetylene glycol surfactant **aq** jet printing ink; smudge prevention anticlogging **aq** jet printing ink; surface tension **aq** jet printing ink

IT **Carbon black**, uses

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (HClO-treated; **aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)

IT Epoxy resins, uses

Polyurethanes, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(acrylic; **aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)

IT Glycols, uses

RL: MOA (Modifier or additive use); USES (Uses)

(alkane-; **aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)

IT Surface tension

Surfactants

(**aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)

IT Acrylic polymers, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM

- (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)
- IT Acrylic polymers, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(epoxy; **aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)
- IT Inks
(jet-printing; **aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)
- IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(polyhydric, ethers; **aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)
- IT Acrylic polymers, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(polyurethane-; **aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)
- IT 264236-90-0P, Acrylic acid-glycidyl acrylate graft copolymer
264236-91-1P, Acrylamide-acrylic acid-glycidyl acrylate-methacrylic acid graft copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)
- IT 56-81-5, 1,2,3-Propanetriol, uses 112-34-5, Diethylene glycol monobutyl ether 126-86-3, Surfynol TG 143-22-6, Triethylene glycol monobutyl ether 584-03-2, 1,2-Butanediol 5343-92-0, 1,2-Pentanediol 6920-22-5, 1,2-Hexanediol 9014-85-1, Surfynol 465
RL: MOA (Modifier or additive use); USES (Uses)
(**aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)
- IT 2118-39-0, Food black 2 122464-59-9, Bayscript black SP
RL: TEM (Technical or engineered material use); USES (Uses)
(**aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)
- IT 7790-92-3, Hypochlorous acid
RL: MOA (Modifier or additive use); USES (Uses)
(treating agent for **carbon black**; **aqueous** ink-jet inks containing 1,2-alkanediols and glycerol and polyol(derivs.) and/or acetylene glycol surfactants)

L22 ANSWER 20 OF 42 HCA COPYRIGHT 2004 ACS on STN.

132:280658 Fast-drying ink-jet recording inks and recording process therewith. Hayashi, Hiroko (Seiko Epson Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2000119573 A2 20000425, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-294169 19981015.

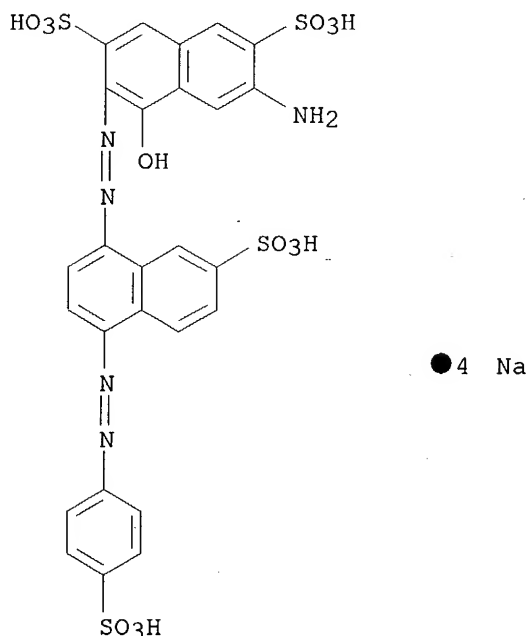
AB The inks have surface tension ≤ 40 mNm⁻¹ at 20° and contain glycerol and ethoxylated p-toluenesulfonamide. The inks are used as black inks in color recording. Thus, an **aqueous** ink containing H₂O-soluble pigments (surface-oxidized **carbon black**; average particle size 145 nm) 6.0, Surfynol 465 1.0, diethylene glycol mono-Bu ether 5.0, p-toluenesulfonamide-ethylene oxide (4 mol) adduct 3.0, glycerol 15.0, diethylene glycol 5.0, and triethanolamine 0.8% gave high-quality prints on ordinary paper and showed good nozzle clogging resistance.

IT 2118-39-0, Food Black 2

RL: TEM (Technical or engineered material use); USES (Uses)
(fast-drying anticlogging black inks for high-quality ink-jet printing)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



IC ICM C09D011-00

ICS B41J002-01; B41M005-00

CC 42-12 (Coatings, Inks, and Related Products)

ST anticlogging jet ink ethoxylated toluenesulfonamide glycerol; oxidized
carbon black aq ink jet

IT Inks

(jet-printing, anticlogging, **water**-thinned; fast-drying
anticlogging black inks for high-quality ink-jet printing)

IT **Carbon black**, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)
(oxidized; fast-drying anticlogging black inks for high-quality ink-jet
printing)

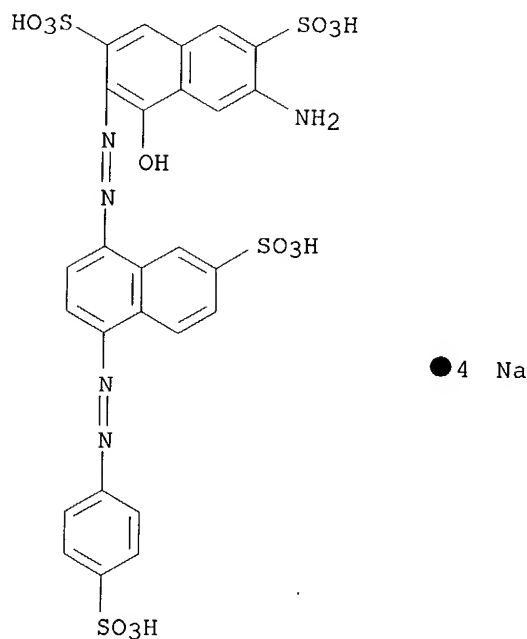
IT 56-81-5, Glycerol, uses 70-55-3D, p-Toluenesulfonamide, reaction
products with ethylene oxide 75-21-8D, Ethylene oxide, reaction products
with toluenesulfonamide 112-34-5, Diethylene glycol monobutyl ether
126-86-3, Surfynol TG 143-22-6, Triethylene glycol monobutyl ether
2118-39-0, Food Black 2 9014-85-1, Surfynol 465 63413-83-2
122464-59-9, Bayscript Black SP

RL: TEM (Technical or engineered material use); USES (Uses)
(fast-drying anticlogging black inks for high-quality ink-jet printing)

L22 ANSWER 21 OF 42 HCA COPYRIGHT 2004 ACS on STN

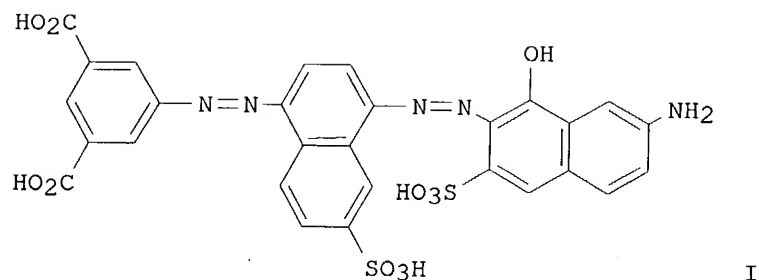
132:37088 Liquid compositions and ink sets and image formation methods
therewith. Ueda, Takamasa; Tabata, Kenichi; Ueda, Noboru; Yasutomi, Hideo
(Minolta Camera Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11343434 A2
19991214 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
1999-60116 19990308. PRIORITY: JP 1998-85862 19980331.

- AB Liquid compns. for adhering to the printing zone contain organic solvents and **water** at ratio 5-95 to 45-55, and the organic solvents have vapor pressure 30-60 mm Hg at 20°. Thus, a black ink contained C.I. Food Black 2 10, diethylene glycol 3, glycerin 13, triethylene glycol mono-Bu ether 4, a surfactant 0.2, and **H2O** 69.8 parts and a liquid composition contained 50:50 ethanol and **H2O**.
- IT **2118-39-0**, C.I. Food Black 2
 RL: TEM (Technical or engineered material use); USES (Uses)
 (liquid compns. and ink sets and image formation methods therewith)
- RN 2118-39-0 HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulphophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

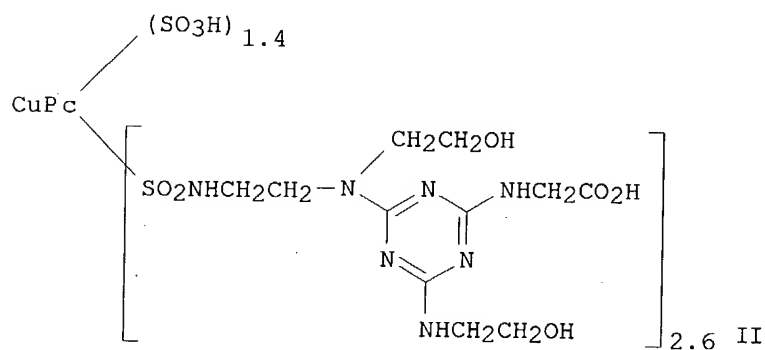


- IC ICM C09D011-00
 ICS B41M005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
- IT **Carbon black**, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Regal 250R; liquid compns. and ink sets and image formation methods therewith)
- IT 147-14-8, Pigment Blue 15 1330-38-7, C.I. Direct Blue 86
2118-39-0, C.I. Food Black 2 6471-51-8, Pigment Red 7
 12220-28-9, C.I. Acid Red 289 12220-70-1, C.I. Acid Yellow 79
 12222-04-7, C.I. Direct Blue 199 50925-42-3, C.I. Direct Yellow 86
 61951-82-4, C.I. Reactive Red 120 77804-81-0, Pigment Yellow 180
 252281-58-6, Bayscript Black BK-SP Liquid
 RL: TEM (Technical or engineered material use); USES (Uses)
 (liquid compns. and ink sets and image formation methods therewith)
- L22 ANSWER 22 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 131:158950 Ink and ink-jet recording method from the same. Kurabayashi, Yutaka; Eguchi, Takeo (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 11217529 A2 19990810 Heisei, 20 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1998-20989 19980202.

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I



2.6 II

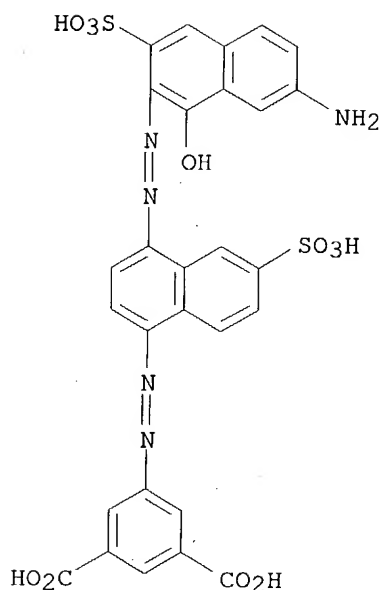
AB The ink, with highly reliability in ink-jet recording, comprises **carbon black** and an **aqueous** dye having carboxyl group. Thus, an ink was prepared from Et acrylate-methacrylic acid-styrene copolymer, Mogul L (**carbon black**), glycerin, diethylene glycol, **H2O**, I and II.

IT **163212-10-0**

RL: TEM (Technical or engineered material use); USES (Uses)
(ink and ink-jet recording method from the same)

RN 163212-10-0 HCA

CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



- IC ICM C09D011-02
ICS B41M005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
- ST ink jet recording material; **carbon black aq**
dye ink; carboxy terminated **aq** dye ink reliability
- IT **Carbon black**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(Mogul L; ink and ink-jet recording method from the same)
- IT Dyes
(**water**-soluble; ink and ink-jet recording method from the same)
- IT Inks
(**water**-thinned; ink and ink-jet recording method from the same)
- IT 147-14-8D, sulfonated and carboxylated triazinylsulfonamido derivs.
25035-68-1, Ethyl acrylate-methacrylic acid-styrene copolymer
163212-10-0
RL: TEM (Technical or engineered material use); USES (Uses)
(ink and ink-jet recording method from the same)
- L22 ANSWER 23 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 131:60162 Ink-jet printing inks with reduced bleeding on paper. Yatake, Masahiro (Seiko Epson Corp., Japan). Jpn. Kokai Tokkyo Koho JP 11166144 A2 19990622 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-335472 19971205.
- AB The inks contain coloring agents, 2,4,7,9-tetramethyl-5-decyne-4,7-diol (I) and/or 3,6-dimethyl-4-octyne-3,6-diol (II), **H2O**-soluble surfactants, and **H2O**, where the ratio of I and/or II to the surfactant of 1:0.5-2. Thus, an **aqueous** ink containing surface-oxidized **carbon black** pigments 5.0, propylene glycol mono-Bu ether 1.0, propylene glycol-ethylene glycol mono-Bu ether 3.0, diethylene glycol monohexyl ether 3.0, diethylene glycol monobutyl ether 8.0, I 1.0, polyethylene glycol monoalkyl ether phosphate salt 1.0, an acrylic core-shell emulsion (prepared from styrene, tetrahydrofurfuryl acrylate, Bu methacrylate, Bu acrylate, acrylic acid, and 1,6-hexanediol dimethacrylate, neutralized) 3.0, glycerol 6.0, 1,5-pentanediol 5.0,

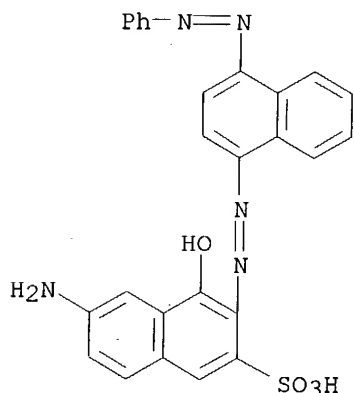
Surfynol TG (acetylene glycol) 0.3, and triethanolamine 0.8% showed no bleeding on any type of paper including recycled paper.

IT **224790-31-2D**, derivs.

RL: TEM (Technical or engineered material use); USES (Uses)
(ink-jet printing inks with reduced bleeding on paper)

RN 224790-31-2 HCA

CN 2-Naphthalenesulfonic acid, 6-amino-4-hydroxy-3-[[4-(phenylazo)-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



IC ICM C09D011-00

ICS B41M005-00

CC 42-12 (Coatings, **Inks**, and Related Products)

IT **Carbon black**, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(oxidized; ink-jet printing inks with reduced bleeding on paper)

IT 51-92-3, Tetramethylammonium 56-81-5, 1,2,3-Propanetriol, uses
57-55-6, 1,2-Propanediol, uses 77-99-6 78-66-0, 3,6-Dimethyl-4-octyne-
3,6-diol 102-71-6, uses 107-21-1, 1,2-Ethanediol, uses 108-01-0,
Dimethylethanolamine 109-83-1, Monomethylethanolamine 110-63-4,
1,4-Butanediol, uses 111-29-5, 1,5-Pentanediol 111-42-2, uses
111-46-6, uses 111-48-8, Thiodiglycol 112-27-6, Triethylene glycol
112-34-5, Diethylene glycol monobutyl ether 112-59-4, Diethylene glycol
monohexyl ether 112-60-7, Tetraethylene glycol 126-86-3,
2,4,7,9-Tetramethyl-5-decyne-4,7-diol 141-43-5, Monoethanolamine, uses
143-22-6, Triethylene glycol monobutyl ether 629-11-8, 1,6-Hexanediol
1305-62-0, Calcium hydroxide, uses 1309-42-8, Magnesium hydroxide
1310-58-3, Potassium hydroxide, uses 1310-65-2, Lithium hydroxide
1310-73-2, Sodium hydroxide, uses 1330-38-7, C.I. Direct Blue 86
3520-42-1, C.I. Acid Red 52 6168-72-5 7664-41-7, Ammonia, uses
9016-45-9, Polyethylene glycol nonylphenyl ether 9036-19-5, Polyethylene
glycol octylphenyl ether 9071-85-6 14002-34-7, Tripropanolamine
21645-51-2, Aluminum hydroxide, uses 24800-44-0, Tripropylene glycol
25265-71-8, Dipropylene glycol 25322-68-3D, Polyethylene glycol, alkyl
ether phosphates 25657-08-3, Tetrapropylene glycol 25961-89-1,
Triethylene glycol monohexyl ether 25961-91-5, Triethylene glycol
monopentyl ether 26264-14-2, Propanediol 29387-86-8, Propylene glycol
monobutyl ether 35884-42-5, Dipropylene glycol monobutyl ether
52019-38-2, Polyethylene glycol monoethyl ether phosphate 85305-25-5,
Dipropylamine 126514-00-9D, derivs. 197530-05-5 **224790-31-2D**
, derivs. 228263-96-5 228263-97-6 228263-99-8 228264-01-5
228264-03-7 228264-05-9 228264-09-3 228264-11-7 228264-83-3
228264-84-4 228264-85-5 228264-86-6

RL: TEM (Technical or engineered material use); USES (Uses)

(ink-jet printing inks with reduced bleeding on paper)

L22 ANSWER 24 OF 42 HCA COPYRIGHT 2004 ACS on STN

130:353791 Glycol ether-containing ink-jet inks for printing onto plain and recycled paper without blurring. Yatake, Masahiro (Seiko Epson Corp., Japan). Jpn. Kokai Tokkyo Koho JP 11124524 A2 19990511 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-290141 19971022.

AB Title inks contain **water**-soluble coloring materials, **H2O**, and (0.5-10):1 mixts. of glycol ethers with high **water** solubility and glycol ethers with low **water** solubility. Thus, an ink containing a **water**-soluble azo pigment 5.0, propylene glycol monobutyl ether 1.0, propylene glycol ethylene glycol monobutyl ether 4.0, diethylene glycol monohexyl ether 3.0, diethylene glycol monobutyl ether 8.0, acrylic polymer particles 3.0, glycerin 6.0, 1,5-pentanediol 5.0, a surfactant (Surfynol TG) 0.3, triethanolamine 0.8, and **H2O** to 100% showed good printing properties.

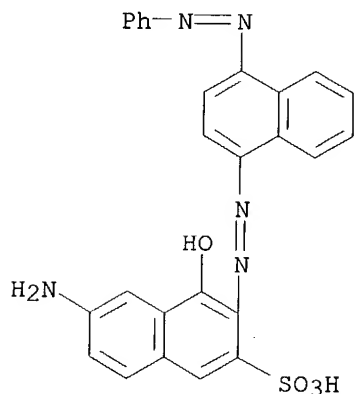
IT **224790-31-2D**, carboxy/sulfo- salt derivs.

RL: TEM (Technical or engineered material use); USES (Uses)

(glycol ether-containing ink-jet inks for printing onto plain and recycled paper without blurring)

RN 224790-31-2 HCA

CN 2-Naphthalenesulfonic acid, 6-amino-4-hydroxy-3-[[4-(phenylazo)-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



IC ICM C09D011-00

CC 42-12 (Coatings, **Inks**, and Related Products)

Section cross-reference(s): 74

IT Bases, uses

Carbon black, uses

Glycols, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(glycol ether-containing ink-jet inks for printing onto plain and recycled paper without blurring)

IT Dyes

Pigments, nonbiological

(**water**-soluble; glycol ether-containing ink-jet inks for printing onto plain and recycled paper without blurring)

IT 1330-38-7, Direct Blue 86 3520-42-1, Acid Red 52 **224790-31-2D**, carboxy/sulfo- salt derivs. 225114-60-3D, alkyl/alkoxy salt derivs. 225114-61-4D, alkyl/alkoxy salt derivs.

RL: TEM (Technical or engineered material use); USES (Uses)

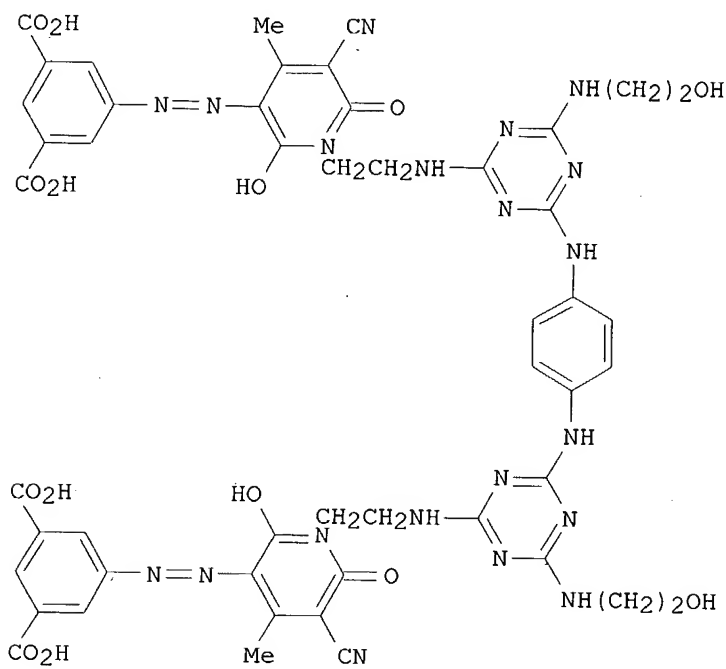
(glycol ether-containing ink-jet inks for printing onto plain and recycled

paper without blurring)

L22 ANSWER 25 OF 42 HCA COPYRIGHT 2004 ACS on STN

128:142133 Ink-jet inks and ink-jet recording using the same with good ink ejection reliability, sufficient image density, rapid drying, and no blotting. Yamashita, Yoshio; Hashimoto, Takeshi; Inoue, Hiroshi (Fuji Xerox Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10017803 A2 19980120 Heisei, 35 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-177599 19960708.

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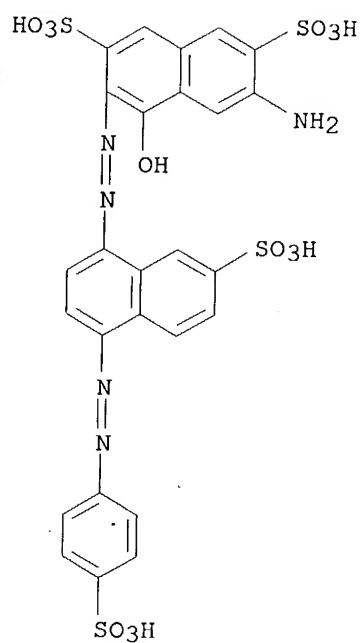
AB The title inks (surface tension 20-40 mN/m, pH ≥ 7.5) based on **water**, colorants, and **water**-miscible organic solvents contain 0.1-3% carboxy (or salt) group-containing polymer with mol. weight 1000-2000, 1-20% **water**-soluble solid organic compds. showing $\geq 50\%$ evaporation at 100-350°, and 1-20% ROXnH (R = C4-8 alkyl, alkenyl, alkynyl, Ph, alkylphenyl, alkenylphenyl, cycloalkyl; X = oxyethylene, oxypropylene; n = 1-4). An ink comprised I (ammonium salt) 2, urea 5, styrene-Na methacrylate copolymer (1:1, mol. weight 7000) 1, Butyl Carbitol 5, thiodiethanol 15, and **water** 72 parts.

IT 2118-39-0, C.I. Food Black 2 201932-24-3
201932-25-4 201932-29-8

RL: TEM (Technical or engineered material use); USES (Uses)
(ink-jet inks and ink-jet recording using the same with good ink ejection reliability, sufficient image d., rapid drying, and no blotting)

RN 2118-39-0 HCA

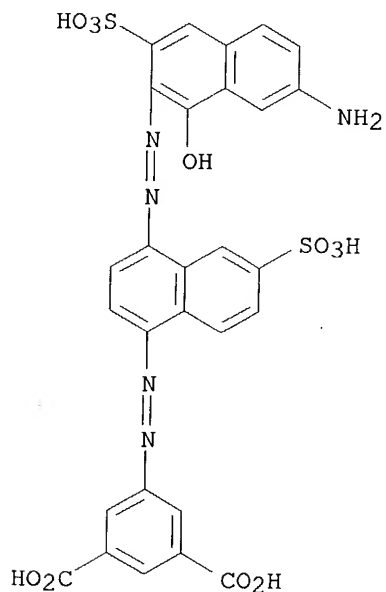
CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulphophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

RN 201932-24-3 HCA

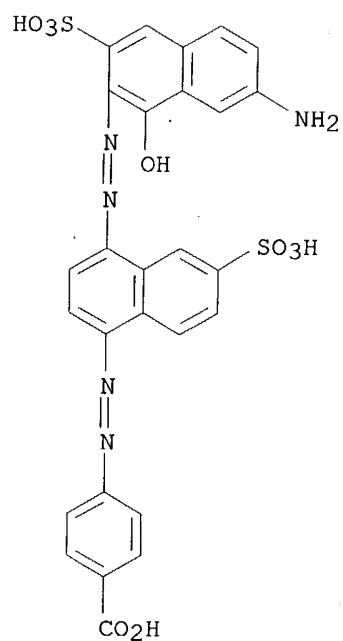
CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]-, sodium salt (9CI) (CA INDEX NAME)



● x Na

RN 201932-25-4 HCA

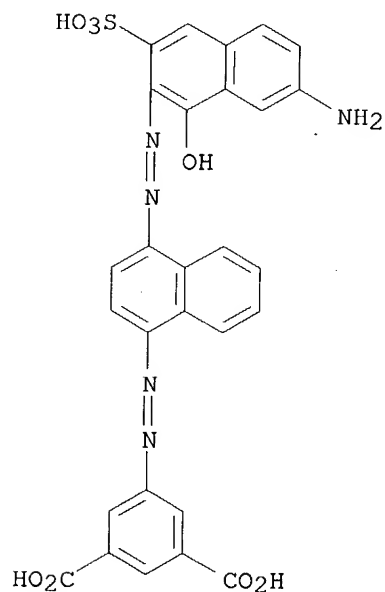
CN Benzoic acid, 4-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]-, sodium salt (9CI) (CA INDEX NAME)



● x Na

RN 201932-29-8 HCA

CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-1-naphthalenyl]azo]-, ammonium salt (9CI) (CA INDEX NAME)



● x NH3

IC ICM C09D011-00

ICS B41J002-01; B41M005-00; C09D011-10

CC 42-12 (Coatings, Inks, and Related Products)

IT Carbon black, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(ink-jet inks and ink-jet recording using the same with good ink)

ejection reliability, sufficient image d., rapid drying, and no blotting)

IT Inks

(jet-printing, **water**-thinned; ink-jet inks and ink-jet recording using the same with good ink ejection reliability, sufficient image d., rapid drying, and no blotting)

IT 143-22-6, Triethylene glycol monobutyl ether 147-14-8D, Copper phthalocyanine, derivs., lithium salts 980-26-7, C.I. Pigment Red 122 **2118-39-0**, C.I. Food Black 2 2650-18-2, C.I. Acid Blue 9 37286-88-7, Lithium maleate-styrene copolymer 90249-28-8, C.I. Direct Yellow 144 140691-98-1 165178-42-7 173402-16-9, X 34. 199297-51-3, Basacid Black X 38 **201932-24-3 201932-25-4** 201932-26-5 201932-27-6 **201932-29-8** 202004-34-0

RL: TEM (Technical or engineered material use); USES (Uses)

(ink-jet inks and ink-jet recording using the same with good ink ejection reliability, sufficient image d., rapid drying, and no blotting)

L22 ANSWER 26 OF 42 HCA COPYRIGHT 2004 ACS on STN

127:150291 Ink-jet recording ink and ink-jet recording method. Yamashita, Yoshiro; Hashimoto, Takeshi; Inoue, Hiroshi (Fuji Xerox Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09157564 A2 19970617 Heisei, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-318901 19951207.

AB The title inks contain **water**, coloring materials, **water**-soluble organic solvents, 0.01-5% carboxy- or carboxy salt-containing polymers (acid value 50-700) and 0.001-5% surfactants, and the inks have bubble surface viscosity 0.05-1.0 g/s. The inks do not spread, and give uniform picture quality. An ink contained C.I. acid blue 9, Surfynol 465, styrene-sodium maleate copolymer, thiodiethanol, and **water**.

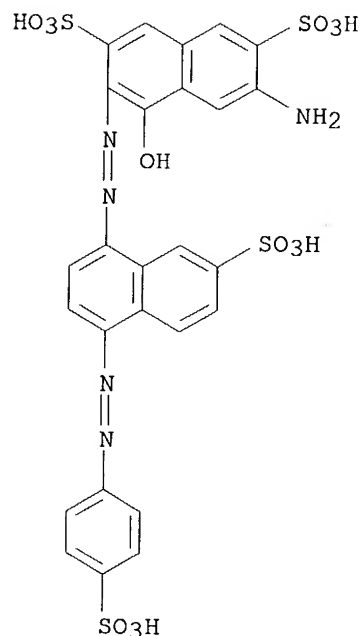
IT **2118-39-0**, C.I. Food black 2

RL: TEM (Technical or engineered material use); USES (Uses)

(ink-jet recording ink and ink-jet recording method)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

- IC ICM C09D011-00
ICS B41J002-01; C09D011-02
- CC 42-12 (Coatings, **Inks**, and Related Products)
- ST jet printing ink carboxy polymer; **aq** ink jet ink; styrene sodium maleate copolymer ink
- IT **Carbon black**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ink-jet recording ink and ink-jet recording method)
- IT 98-11-3D, Benzenesulfonic acid, alkyl derivs., sodium salts, uses
126-86-3, Surfynol 104 151-21-3, Sodium lauryl sulfate, uses 683-10-3,
Lauryl betaine 1643-20-5, Lauryldimethylamine oxide **2118-39-0**,
C.I. Food black 2 2650-18-2, C.I. Acid blue 9 3520-42-1, C.I. Acid red
52 9002-89-5, Polyvinyl alcohol 9004-98-2, Polyoxyethylene oleyl ether
9005-63-4D, fatty acid esters 9008-63-3, Sodium naphthalenesulfonate-
formalin copolymer 9014-85-1, Surfynol 465 9014-92-0, Polyoxyethylene
laurylphenyl ether 9063-89-2, Polyoxyethylene octylphenyl ether
12220-65-4, C.I. Acid yellow 32 12222-04-7, C.I. Direct blue 199
12222-51-4, C.I. Direct red 227 25751-21-7, Acrylic acid-methacrylic
acid copolymer 37286-87-6 37286-88-7, Lithium maleate-styrene
copolymer 37286-89-8, Sodium maleate-styrene copolymer 39332-53-1,
Acrylic acid-methacrylic acid-methyl methacrylate copolymer 41354-67-0
50925-42-3, C.I. Direct yellow 86 54804-85-2, C.I. Direct black 154
55031-88-4, Isobutylene-sodium maleate copolymer 76348-54-4, Ammonium
maleate-styrene copolymer 82930-89-0, Acrylic acid-methyl methacrylate
copolymer ammonium salt 85631-88-5, C.I. Direct black 168 90249-28-8,
C.I. Direct yellow 144 106392-12-5, Pluronic 163294-23-3, Pro jet fast
black 2 193211-67-5 193211-71-1 199297-51-3, X 38
RL: TEM (Technical or engineered material use); USES (Uses)
(ink-jet recording ink and ink-jet recording method)
- L22 ANSWER 27 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 126:318531 Ink and ink-jet recording method and instruments using the same.
Shimomura, Masako; Kurabayashi, Yutaka (Canon K. K., Japan). Eur. Pat.
Appl. EP 765920 A2 19970402, 15 pp. DESIGNATED STATES: R: CH, DE, ES,

FR, GB, IT, LI, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1996-115550 19960927. PRIORITY: JP 1995-275154 19950929.

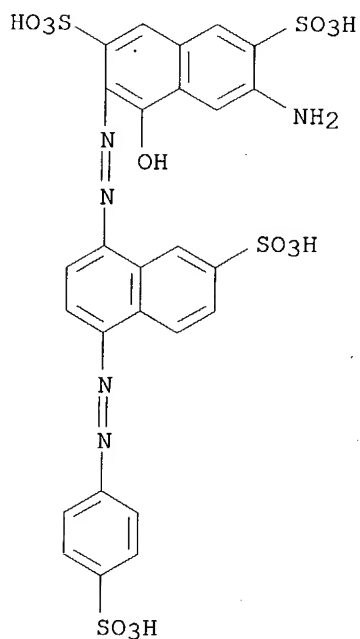
AB The ink comprises a recording agent such as dyes, succinylated carboxymethylchitosan (I) and a liquid medium where the addition of I is for improving recording tip wettability, ink **water** fastness after drying, optical d., etc. An ink-jet printing apparatus using the ink is also disclosed. Thus, an ink comprised diethylene glycol 15, I 50, C.I. Food Black 2 3, EtOH 4 and **water** 28 parts.

IT **2118-39-0**, C.I. Food Black 2 **160943-34-0**

RL: TEM (Technical or engineered material use); USES (Uses)
(succinylated carboxymethyl chitosan wetting agent for recording inks, method and instruments using same)

RN 2118-39-0 HCA

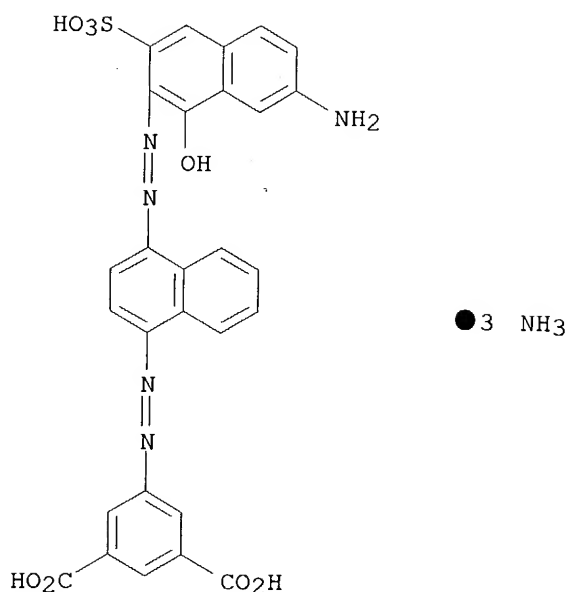
CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

RN 160943-34-0 HCA

CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-1-naphthalenyl]azo]-, triammonium salt (9CI) (CA INDEX NAME)



IC ICM C09D011-00

ICS B41J002-01

CC 42-12 (Coatings, Inks, and Related Products)

IT **Carbon black**, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(pigment; succinylated carboxymethyl chitosan wetting agent for recording inks, method and instruments using same)

IT **2118-39-0**, C.I. Food Black 2 85631-88-5, C.I. Direct Black 168
160943-34-0

RL: TEM (Technical or engineered material use); USES (Uses)
(succinylated carboxymethyl chitosan wetting agent for recording inks, method and instruments using same)

L22 ANSWER 28 OF 42 HCA COPYRIGHT 2004 ACS on STN

126:48454 **Water**-thinned ink sets with good bleeding prevention and ink-jet printing process and apparatus using them. Kimura, Isao; Maeda, Hiroyuki; Kubota, Hidemi (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08259869 A2 19961008 Heisei, 12 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1995-91919 19950327.

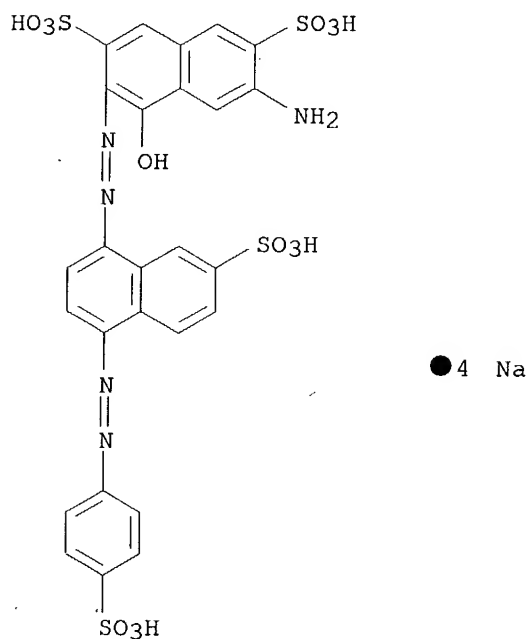
AB Title sets comprise ≥ 2 inks having different color tones, some inks contain solvent-insol. fine particles and poly(acrylic acid) (I) or poly(methacrylic acid) (II) and the other inks contain 0.01-20% polymers reactive with I or II to form gels and solvent-insol. fine particles. Printing processes using heat or dynamic energy and apparatus are also claimed. Thus, an ink set comprised a **water**-thinned ink containing 3.0% C.I. Food Black 2, 10.0% DEG, 2.0% IPA, 2.0% urea, 0.2% Acetylenol EH, 2.0% SX 986A (acrylic acid ester particles), and 3.0% polyethylene oxide and a **water**-thinned ink containing 3.0% C.I. Direct Yellow 86, 10.0% DEG, 2.0% IPA, 2.0% urea, 0.2% Acetylenol EH, 2.0% S 2467, and 3% poly(methacrylic acid) and showed good bleeding prevention.

IT **2118-39-0**, C.I. Food Black 2

RL: TEM (Technical or engineered material use); USES (Uses)
(**water**-thinned jet-printing ink sets containing poly(methacrylic acid) and gelable polymers with good bleeding prevention)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulphophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



IC ICM C09D011-00
ICS B41J002-01; B41M005-00; C09D011-02

CC 42-12 (Coatings, **Inks**, and Related Products)

ST **water** thinned jet printing ink set; bleeding prevention
polymethacrylic acid ink gelation

IT Polyvinyl acetals
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(S-Lec, polymers with poly(methacrylic acid), reaction products with carboxyl group-containing compds.; **water**-thinned jet-printing ink sets containing poly(methacrylic acid) and gelable polymers with good bleeding prevention)

IT Polysiloxanes, uses
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(acrylic; **water**-thinned jet-printing ink sets containing poly(methacrylic acid) and gelable polymers with good bleeding prevention)

IT **Inks**
(jet-printing; **water**-thinned jet-printing ink sets containing poly(methacrylic acid) and gelable polymers with good bleeding prevention)

IT Acrylic polymers, uses
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polysiloxane-; **water**-thinned jet-printing ink sets containing poly(methacrylic acid) and gelable polymers with good bleeding prevention)

IT **Graphitized carbon black**
RL: TEM (Technical or engineered material use); USES (Uses)

(~~water~~-thinned jet-printing ink sets containing poly(methacrylic acid) and gelable polymers with good bleeding prevention)

IT 24980-63-ODP, Methacrylic acid-vinyl acetate copolymer, reaction products with carboxy group-containing compds. 25085-03-4DP, Acrylamide-methacrylic acid copolymer, reaction products with carboxyl group-containing compds. 25087-26-7DP, Poly(methacrylic acid), polymers with vinyl acetal polymers, reaction products with carboxyl group-containing compds. 30326-74-ODP, Methacrylic acid-vinylpyrrolidone copolymer, reaction products with carboxy group-containing compds. 42936-66-3DP, Methacrylic acid-vinyl methyl ether copolymer, reaction products with carboxy group-containing compds. 112039-37-9DP, Methacrylic acid-polyethylene glycol copolymer, reaction products with carboxyl group-containing compds. 151954-97-1DP, N-Isopropylacrylamide-methacrylic acid copolymer, reaction products with carboxyl group-containing compds. 182893-23-8DP, JSR-S 2467, reaction products with methacrylic acid polymers 184592-19-6DP, reaction products with carboxyl group-containing compds. 184723-08-8DP, reaction products with carboxyl group-containing compds. 184758-47-2DP, Methacrylic acid-methylcellulose copolymer, reaction products with carboxy group-containing compds. 184971-66-2DP, Hydroxypropylcellulose-methacrylic acid copolymer, reaction products with carboxy group-containing compds.

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(~~water~~-thinned jet-printing ink sets containing poly(methacrylic acid) and gelable polymers with good bleeding prevention)

IT 79-10-7D, 2-Propenoic acid, esters, uses 184720-10-3, JSR-SX 8352 184720-11-4, JSR-SX 8353 184720-12-5, JSR-SX 986A 184720-13-6, JSR-SX 986B

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(~~water~~-thinned jet-printing ink sets containing poly(methacrylic acid) and gelable polymers with good bleeding prevention)

IT 2118-39-0, C.I. Food Black 2 50925-42-3, C.I. Direct Yellow 86 71902-08-4, C.I. Direct Yellow 142

RL: TEM (Technical or engineered material use); USES (Uses)

(~~water~~-thinned jet-printing ink sets containing poly(methacrylic acid) and gelable polymers with good bleeding prevention)

L22 ANSWER 29 OF 42 HCA COPYRIGHT 2004 ACS on STN

126:33227 ~~Water~~-thinned color ink sets with good color bleeding prevention and ink-jet printing method and printers using them. Kimura, Isao; Maeda, Hiroyuki; Kubota, Hidemi (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08253717 A2 19961001 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-80865 19950314.

AB Title ink sets comprise ≥ 2 inks having different colors, where one of which contains poly(acrylic acid) (I) or poly(methacrylic acid) (II) and the other contains polymers which gel when contacting I or II. The inks are applied to an ink-jet printer equipped with ink cartridges and recording heads. Thus, a color ink set comprised a ~~water~~-thinned ink containing C.I. Food Black 2 3.0, DEG 10.0, IPA 2.0, urea 2.0, Acetylenol EH 0.2, and poly(ethylene oxide) 3.0% and a ~~water~~-thinned ink containing C.I. Acid Yellow 17 3.0, DEG 10.0, IPA 2.0, urea 2.0, Acetylenol EH 0.2, and II 3.0%.

IT 2118-39-0, C.I. Food Black 2

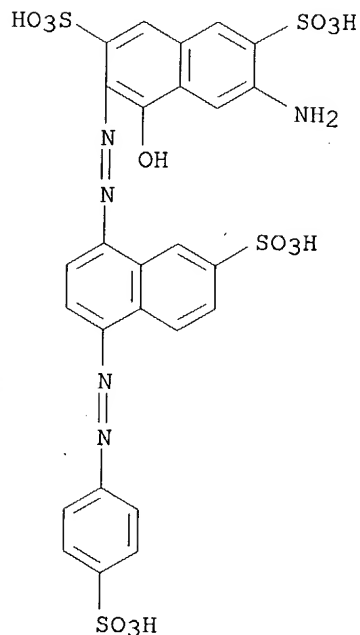
RL: TEM (Technical or engineered material use); USES (Uses)

(~~water~~-thinned color ink sets with good color bleeding prevention and ink-jet printing method and printers using them)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-

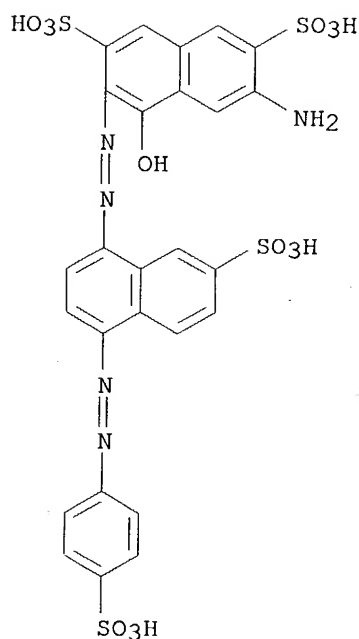
sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

- IC ICM C09D011-00
ICS C09D011-00; B41J002-01; B41M005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
- ST polymethacrylic acid **water** thinned printing ink; jet printing ink set bleeding prevention
- IT Polyvinyl acetals
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(S-Lec; **water**-thinned color ink sets with good color bleeding prevention and ink-jet printing method and printers using them)
- IT **Inks**
(jet-printing, **water**-thinned; **water**-thinned color ink sets with good color bleeding prevention and ink-jet printing method and printers using them)
- IT Ink-jet printing
(**water**-thinned color ink sets with good color bleeding prevention and ink-jet printing method and printers using them)
- IT Polyoxyalkylenes, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**water**-thinned color ink sets with good color bleeding prevention and ink-jet printing method and printers using them)
- IT **Carbon black**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**water**-thinned color ink sets with good color bleeding prevention and ink-jet printing method and printers using them)
- IT 9003-11-6
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(Newpol PE 75; **water**-thinned color ink sets with good color bleeding prevention and ink-jet printing method and printers using them)

- IT 9002-89-5, Poly(vinyl alcohol) 9003-05-8, Polyacrylamide 9003-09-2, Poly(vinyl methyl ether) 9003-20-7, Poly(vinyl acetate) 9003-39-8, K 30 9004-64-2, HPC-MF 9004-67-5, Methocel A 15C 25087-26-7, Poly(methacrylic acid) 25189-55-3, Poly(N-isopropylacrylamide) 25322-68-3
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (water-thinned color ink sets with good color bleeding prevention and ink-jet printing method and printers using them)
- IT 1934-21-0, C.I. Acid Yellow 23 2118-39-0, C.I. Food Black 2 6359-98-4, C.I. Acid Yellow 17
 RL: TEM (Technical or engineered material use); USES (Uses)
 (water-thinned color ink sets with good color bleeding prevention and ink-jet printing method and printers using them)
- L22 ANSWER 30 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 125:224759 Image-forming method employing ink-jet recording system. Sato, Shinichi; Tochiwara, Shinichi; Kurabayashi, Yutaka; Takahashi, Katsuhiko; Ogasawara, Masashi (Canon K. K., Japan). Eur. Pat. Appl. EP 724968 A1 19960807, 16 pp. DESIGNATED STATES: R: CH, DE, FR, GB, IT, LI. (English). CODEN: EPXXDW. APPLICATION: EP 1996-101336 19960131. PRIORITY: JP 1995-32895 19950131.
- AB The title method, giving images with good quality and water fastness and no bronzing on various types of recording media, involves applying a black ink comprising a liquid medium containing a black pigment (e.g., carbon black) and a water-soluble black dye (e.g., C.I. Direct Black 168) to an image-forming area of a recording medium by ink-jet recording and applying a different liquid composition [e.g., poly(allylamine hydrochloride)-benzalkonium chloride-diethylene glycol-water mixture] to the image-forming area.
- IT 2118-39-0, C.I. Food Black 2
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (jet printing with inks containing carbon black and)
- RN 2118-39-0 HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

- IC ICM B41M007-00
ICS B41M001-36; B41J002-205; B41J002-21
- CC 42-12 (Coatings, **Inks**, and Related Products)
- ST jet printing black ink clear liq; **carbon black** ink jet printing; dye black ink jet printing
- IT Printing, nonimpact
(jet printing with ink containing **carbon black** pigment and **water**-soluble black dye and clear liquid)
- IT **Carbon black**, uses
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(pigment; jet printing with inks containing **water**-soluble black dye and)
- IT Inks
(jet-printing, containing **carbon black** pigment and **water**-soluble black dye)
- IT **2118-39-0**, C.I. Food Black 2 85631-88-5, C.I. Direct Black 168
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(jet printing with inks containing **carbon black** and)
- L22 ANSWER 31 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 124:302641 Liquid compositions and ink sets and image formation using same. Takahashi, Katsuhiko; Kurabayashi, Yutaka (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08020161 A2 19960123 Heisei, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-179761 19940708.
- AB The title liquid comps. contain cationic compds. and polyamines. The polyimines may be $\text{NH}_2(\text{CH}_2\text{CH}_2\text{NH})_n\text{H}$ ($n = 3-30$). The ink sets comprise the liquid composition and ≥ 1 ink selected from yellow, magenta, cyan, black, red, blue, and green inks containing an anionic group-containing **water**-soluble dye or at least an anionic compound and a pigment. An ink jet recording process using the ink sets is also claimed. High-quality color images with high d. and good fixability and **water** resistance and without bleeding are obtained on plain paper in ink jet recording using

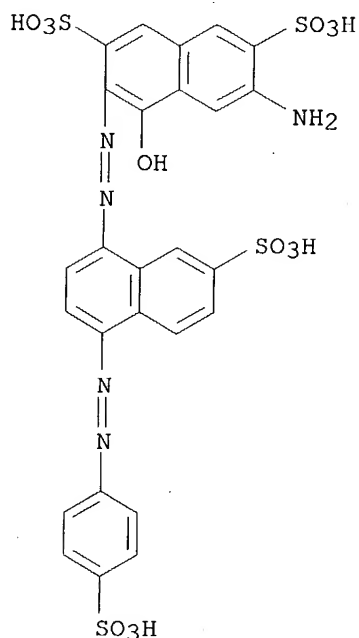
the ink sets. Thus, an **aqueous** solution containing pentaethylenehexamine, benzalkonium chloride, and thiodiglycol was mixed with an ink containing C.I. Direct Yellow 142 and thiodiglycol to give a yellow ink set.

IT 2118-39-0, C.I. Food Black 2

RL: TEM (Technical or engineered material use); USES (Uses)
(dye, ink sets containing; liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water** resistance)

RN 2118-39-0 HCA

CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

IC ICM B41M005-00

ICS B41J002-01; C09D011-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 42

IT Polyamines

RL: MOA (Modifier or additive use); USES (Uses)
(liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water** resistance)

IT **Carbon black**, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(pigment, ink sets containing, Mogul L; liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water** resistance)

IT Quaternary ammonium compounds, uses

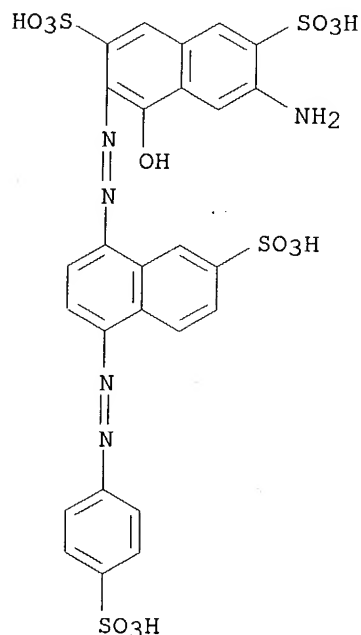
RL: MOA (Modifier or additive use); USES (Uses)
(alkylbenzyltrimethyl, chlorides, surfactants; liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water** resistance)

IT Surfactants

(cationic, liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water**)

- resistance)
- IT Printing, nonimpact
(ink-jet, liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water** resistance)
- IT Inks
(jet-printing, liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water** resistance)
- IT 2118-39-0, C.I. Food Black 2 2650-18-2, C.I. Acid Blue 9
12220-28-9, C.I. Acid Red 289 71902-08-4, C.I. Direct Yellow 142
RL: TEM (Technical or engineered material use); USES (Uses)
(dye, ink sets containing; liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water** resistance)
- IT 4067-16-7, Pentaethylenehexamine 4403-32-1, Hexaethyleneheptamine
RL: MOA (Modifier or additive use); USES (Uses)
(liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water** resistance)
- IT 147-14-8 980-26-7, C.I. Pigment Red 122 77804-81-0, Novoperm Yellow PH-G
RL: TEM (Technical or engineered material use); USES (Uses)
(pigment, ink sets containing; liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water** resistance)
- and
- IT 112-00-5, Lauryltrimethylammonium chloride 112-02-7, Cetyltrimethylammonium chloride
RL: MOA (Modifier or additive use); USES (Uses)
(surfactant; liquid compns. containing cationic compds. and polyamines for ink-jet printing for breeding prevention and **water** resistance)
- L22 ANSWER 32 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 124:274578 Liquid compositions and ink sets and image formation using same. Takahashi, Katsuhiko; Kurabayashi, Yutaka (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08020159 A2 19960123 Heisei, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-179763 19940708.
- AB The title liquid compns. contain ≥ 1 cationic compound selected from NRMe3X (I), NRMe2CH2PhX, and NR2Me2X (R = C ≥ 18 alkyl; X = Cl, Br) and solubilized in **water** with **water**-soluble organic solvents and a **water**-soluble cationic surfactant. The ink sets comprise the liquid composition and ≥ 1 ink selected from yellow, magenta, cyan, black, red, blue, and green inks containing an anionic group-containing **water**-soluble dye or at least an anionic compound and a pigment. An ink jet recording process using the ink sets is also claimed. High-quality color images with high d. and good fixability and **water** resistance and without bleeding are obtained on plain paper in ink-jet recording using the ink sets. Thus, an **aqueous** solution containing I (R = behenyl; X = Cl), and I (R = lauryl; X = Cl), iso-PrOH, and thiodiglycol was mixed with an ink containing C.I. Direct Yellow 86 and thiodiglycol to give a yellow ink set.
- IT 2118-39-0, C.I. Food Black 2
RL: TEM (Technical or engineered material use); USES (Uses)
(dye, ink sets containing; liquid compns. containing ammonium compds. and surfactants for ink-jet printing for bleeding prevention and **water** resistance)
- RN 2118-39-0 HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-

sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

- IC ICM B41M005-00
ICS B41J002-01; B41J002-21
ICA C09D011-00
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 42
IT Quaternary ammonium compounds, uses
RL: MOA (Modifier or additive use); USES (Uses)
(liquid comps. containing ammonium comps. and surfactants for ink-jet printing for bleeding prevention and **water** resistance)
IT **Carbon black**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pigment, ink sets containing, MCF 88; liquid comps. containing ammonium comps. and surfactants for ink-jet printing for bleeding prevention and **water** resistance)
IT Surfactants
(cationic, liquid comps. containing ammonium comps. and surfactants for ink-jet printing for bleeding prevention and **water** resistance)
IT Printing, nonimpact
(ink-jet, liquid comps. containing ammonium comps. and surfactants for ink-jet printing for bleeding prevention and **water** resistance)
IT Inks
(jet-printing, liquid comps. containing ammonium comps. and surfactants for ink-jet printing for bleeding prevention and **water** resistance)
IT 2118-39-0, C.I. Food Black 2 12219-28-2, C.I. Acid Blue 199
12220-28-9, C.I. Acid Red 289 50925-42-3, C.I. Direct Yellow 86
RL: TEM (Technical or engineered material use); USES (Uses)

(dye, ink sets containing; liquid compns. containing ammonium compds. and surfactants for ink-jet printing for bleeding prevention and **water** resistance)

IT 107-64-2, Distearyltrimethylammonium chloride 122-19-0,
Stearylbenzyltrimethylammonium chloride 17301-53-0,
Behenyltrimethylammonium chloride

RL: MOA (Modifier or additive use); USES (Uses)

(liquid compns. containing ammonium compds. and surfactants for ink-jet printing for bleeding prevention and **water** resistance)

IT 147-14-8, Pigment Blue 15 6358-31-2, Pigment Yellow 74 6471-51-8,
Pigment Red 7

RL: TEM (Technical or engineered material use); USES (Uses)

(pigment, ink sets containing; liquid compns. containing ammonium compds.

and

surfactants for ink-jet printing for bleeding prevention and **water** resistance)

IT 56-81-5, Glycerol, uses 64-17-5, Ethanol, uses 67-63-0, Isopropyl alcohol, uses 71-36-3, Butyl alcohol, uses 78-83-1, Isobutyl alcohol, uses 111-46-6, Diethylene glycol, uses 111-48-8, Thiodiglycol 872-50-4, N-Methylpyrrolidone, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(solvent; liquid compns. containing ammonium compds. and surfactants for ink-jet printing for bleeding prevention and **water** resistance)

IT 112-00-5, Lauryltrimethylammonium chloride 112-02-7,
Cetyltrimethylammonium chloride 139-07-1, Laurylbenzyltrimethylammonium chloride

RL: TEM (Technical or engineered material use); USES (Uses)

(surfactant; liquid compns. containing ammonium compds. and surfactants for ink-jet printing for bleeding prevention and **water** resistance)

L22 ANSWER 33 OF 42 HCA COPYRIGHT 2004 ACS on STN

124:205250 Cationic compound and polyallylamine liquid compositions, ink sets from them, and image formation. Takahashi, Katsuhiko; Kurabayashi, Yutaka (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08020720 A2 19960123 Heisei, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-180472 19940711.

AB The compns., with good durability and good **water** resistance, comprise mixts. of polyallylamine, and optionally cationic compound (having ≥ 1 peak in the mol. weight distribution curve at $\leq 1,000$ or 1,500-10,000), LiOAc and/or urea. Thus, a composition was prepared from a colorless mixture of a polyallylamine salt (showing a peak at mol. weight 700) 5, thiodiglycol (I) 10, LiOAc 0.5 and **water** 84.5%, where the composition was recorded on paper first, and a recording ink mixture of C.I. Direct Yellow 142 2, I 10, Acetylenol EH 0.05 and **water** 87.95% was applied after the composition

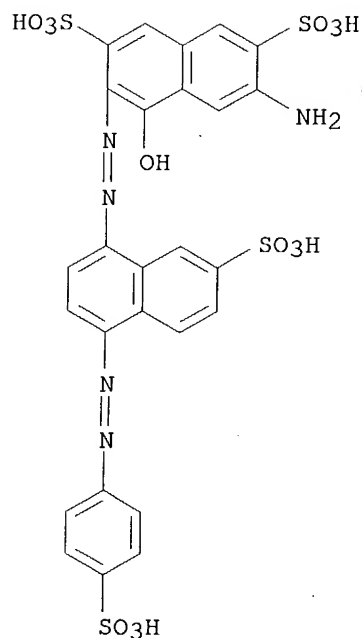
IT 2118-39-0, C.I. Food Black 2

RL: TEM (Technical or engineered material use); USES (Uses)

(cationic compound and polyallylamine liquid compns., ink sets and image formation)

RN 2118-39-0 HCA

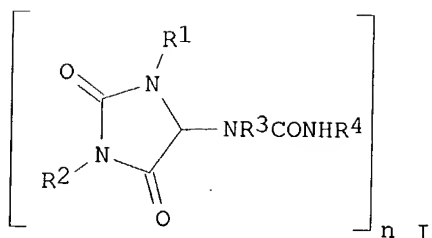
CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulphophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

- IC ICM C08L079-02
ICS B41J002-01; B41M005-00; C08K005-09; C08K005-21; C09D011-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
- IT **Carbon black**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(Mogul L; cationic compound and polyallylamine liquid compns., ink sets and image formation)
- IT **Inks**
(jet-printing, **water**-resistant, colored; cationic compound and polyallylamine liquid compns., ink sets and image formation)
- IT 25035-68-1, Ethyl acrylate-methacrylic acid-styrene copolymer
RL: MOA (Modifier or additive use); USES (Uses)
(anionic dispersant for **carbon black**; cationic compound and polyallylamine liquid compns., ink sets and image formation)
- IT 147-14-8, Fastogen Blue FGF 980-26-7, C.I. Pigment Red 122
2118-39-0, C.I. Food Black 2 2650-18-2, C.I. Acid Blue 9
12220-28-9, C.I. Acid Red 289 71902-08-4, C.I. Direct Yellow 142
RL: TEM (Technical or engineered material use); USES (Uses)
(cationic compound and polyallylamine liquid compns., ink sets and image formation)
- L22 ANSWER 34 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 124:90600 Inks containing allantoin, ink-jet printing method, and the devices. Kurabayashi, Yutaka; Shiota, Katsuhiro; Sakaeda, Takeshi (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 07247452 A2 19950926 Heisei, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-64449 19940309.

GI



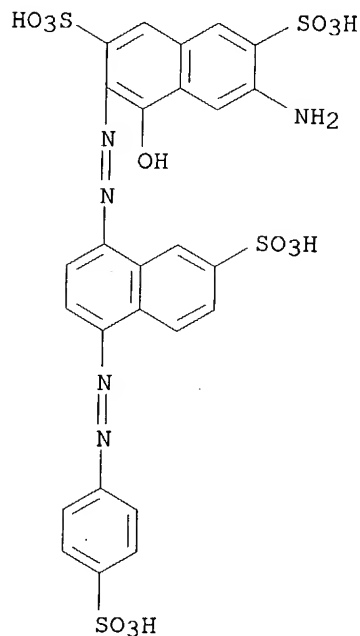
AB Title inks contain colorants, allantoin I (R1-3 = H, CH2OH; n = 1-2; R4 = H, CH2OH at n = 1; R4 = CH2 at n = 2), **water**, and **water**-soluble organic solvents. Ink-jet printing method of extruding energy-charged ink drops, ink jet-printing units, ink cartridge, and printing devices are also claimed. The comps. containing I as moisture-retaining agents as substitutes for ureas show prevention of bronze phenomena. Thus, an ink comprising thiodiglycol 5, allantoin 5, C.I. Food Black 2 3, and **water** 87 parts showed stable continuous extrusion in jet printing.

IT 2118-39-0, C.I. Food Black 2 160943-34-0
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(dyes; jet-printing inks containing moisture-keeping allantoin, **water**, and **water**-soluble organic solvents)

RN 2118-39-0 HCA

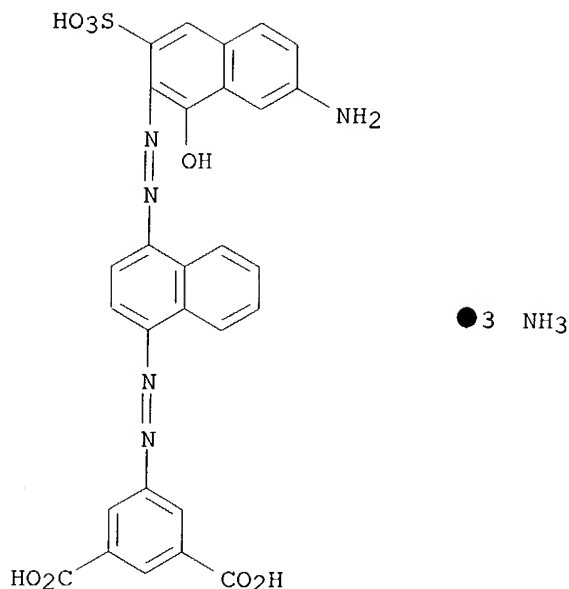
CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

RN 160943-34-0 HCA

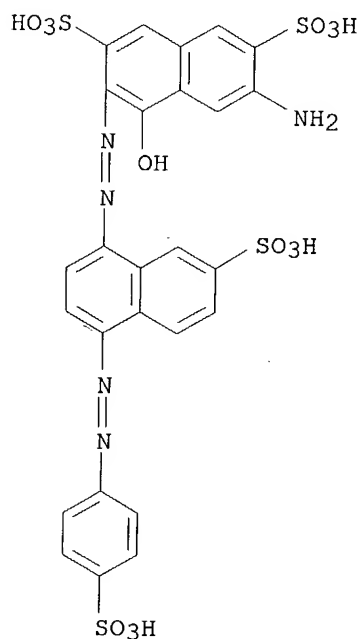
CN 1,3-Benzenedicarboxylic acid, 5-[[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-1-naphthalenyl]azo]-, triammonium salt (9CI) (CA INDEX NAME)



- IC ICM C09D011-00
ICS B41J002-01; B41M005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
- ST jet printing ink blend allantoin; urea substituted allantoin printing ink; moisture retaining allantoin blend ink; energy charging ink jet printing; cartridge ink jet printing; **water** org solvent jet printing; thiodiglycol **aq** printing ink
- IT **Carbon black**, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(jet-printing inks containing moisture-keeping allantoin, **water**, and **water**-soluble organic solvents)
- IT Inks
(jet-printing, jet-printing inks containing moisture-keeping allantoin, **water**, and **water**-soluble organic solvents)
- IT 2118-39-0, C.I. Food Black 2 160943-34-0
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(dyes; jet-printing inks containing moisture-keeping allantoin, **water**, and **water**-soluble organic solvents)
- IT 97-59-6, Allantoin 39236-46-9, Germall 115 78491-02-8, Germall II
RL: MOA (Modifier or additive use); USES (Uses)
(jet-printing inks containing moisture-keeping allantoin, **water**, and **water**-soluble organic solvents)
- IT 56-81-5, Glycerin, uses 64-17-5, Ethanol, uses 67-63-0, 2-Propanol, uses 107-21-1, Ethylene glycol, uses 111-48-8, Thiodiglycol 7732-18-5, **Water**, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvents; jet-printing inks containing moisture-keeping allantoin, **water**, and **water**-soluble organic solvents)
- L22 ANSWER 35 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 123:146941 Ink-jet inks and **aqueous** dyes therefor. Yamashita, Yoshiro; Yui, Toshiki; Nakajo, Masahiko; Koide, Fuminori; Hashimoto, Takeshi (Fuji Xerox Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 07118585 A2 19950509 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP

1993-287335 19931025.

- AB Title **aqueous** inks, with good anticlogging and discharge stability, contain oil-soluble materials of ≤ 150 ppm and Si concentration of 0.05-10 ppm and are prepared from **aqueous** dyes having oil-soluble materials of ≤ 1200 ppm and Si concentration of 0.5-200 ppm. A C.I. direct black 168 was filtered to remove inorg. impurities and treated with active carbon to remove oil-soluble materials before mixing with other ink components.
- IT **2118-39-0**, C.I. Food black 2
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (C.I. food black 2; pre-filtered and active carbon-pretreated dyes for jet-printing inks with anticlogging and discharge stability)
- RN 2118-39-0 HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

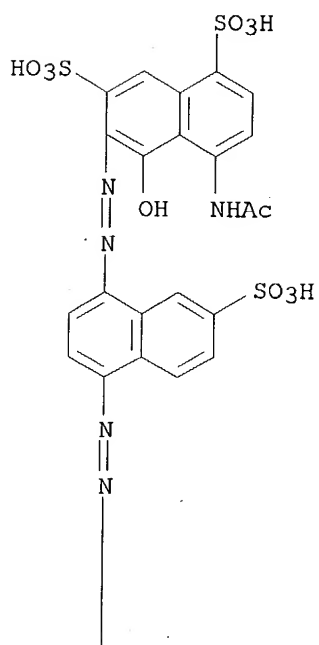
- IT **7440-44-0**, **Activated carbon**, processes
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (activated; pre-filtered and active carbon-pretreated dyes for jet-printing inks with anticlogging and discharge stability)
- RN 7440-44-0 HCA
- CN Carbon (7CI, 8CI, 9CI) (CA INDEX NAME)

C

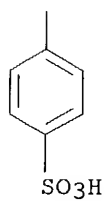
- IC ICM C09D011-00
 ICS C09B067-46; C09D011-02; D06P005-00
- CC 42-12 (Coatings, **Inks**, and Related Products)
- ST **aq** dye purifn filtration; active carbon treatment **aq** dye
- IT Dyes, azo
 (**aqueous**; pre-filtered and active carbon-pretreated dyes for jet-printing inks with anticlogging and discharge stability)

- IT Inks
(jet-printing, **aqueous** inks containing pre-filtered and active carbon-pretreated dyes for anticlogging and discharge stability)
- IT **2118-39-0**, C.I. Food black 2
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(C.I. food black 2; pre-filtered and active carbon-pretreated dyes for jet-printing inks with anticlogging and discharge stability)
- IT **7440-44-0**, **Activated carbon**, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(activated; pre-filtered and active carbon-pretreated dyes for jet-printing inks with anticlogging and discharge stability)
- L22 ANSWER 36 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 122:268323 Jet-printing inks containing hydrazides or oxazolyl compounds/polymers and carbonyl compounds and process and apparatus for using these inks. Tonogaki, Masahiko; Suga, Yuko; Kashiwazaki, Akio; Takaide, Aya (Canon K. K., Japan). Eur. Pat. Appl. EP 617097 A2 19940928, 27 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1994-104441 19940321. PRIORITY: JP 1993-62111 19930322; JP 1993-83511 19930409.
- AB Jet-printing inks with good drying time, clogging and blurring resistance, frequency response, and print d. contain a (a) compound having ≥ 1 carbonyl group and (b) ≥ 1 of a styrene-maleic acid resin having ≥ 2 hydrazide groups, a polyacrylic acid having ≥ 2 hydrazide groups, CO(NHNH₂)₂, and R(CONHNH₂)₂ [R = (CH₂)₀₋₁₀ or Ph]. Optionally, (b) is replaced with a **water**-soluble resin having an oxazolyl group or fine particles having oxazolyl groups adsorbed on the surface. Thus, a dispersion containing acrylic acid-Et acrylate-styrene copolymer 1.5, ethanolamine 1, **water** 81.5, diethylene glycol 5, **carbon black** 10, and iso-PrOH 1 part was mixed (30 parts) with glycerol 10, ethylene glycol 5, N-methylpyrrolidone 5, EtOH 2, adipic dihydrazide 2, and **water** 46 parts to give an ink.
- IT **2519-30-4**, C.I. Food Black 1 **5905-21-5**, C.I. Direct Blue 149 **8015-02-9**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(jet-printing inks containing hydrazides or oxazolyl compds./polymers and carbonyl compds. and process and apparatus for using these inks)
- RN 2519-30-4 HCA
- CN 1,7-Naphthalenedisulfonic acid, 4-(acetylamino)-5-hydroxy-6-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

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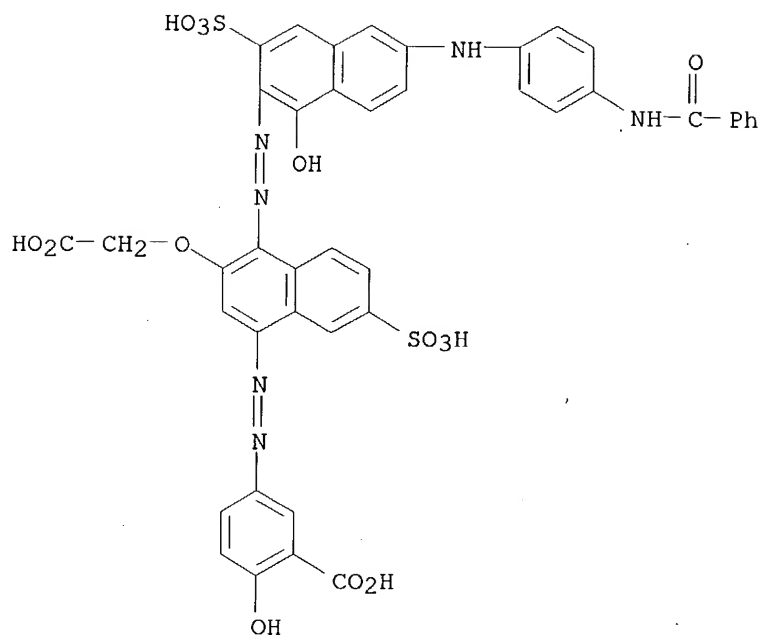
PAGE 2-A



● 4 Na

RN 5905-21-5 HCA
 CN Benzoic acid, 5-[[4-[[6-[[4-(benzoylamino)phenyl]amino]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-3-(carboxymethoxy)-7-sulfo-1-naphthalenyl]azo]-2-hydroxy-, tetrasodium salt (9CI) (CA INDEX NAME)

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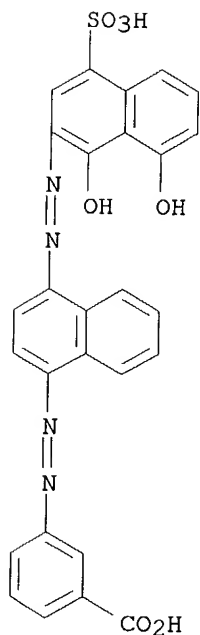


PAGE 2-A

● 4 Na

RN 8015-02-9 HCA
 CN Benzoic acid, 3-[[4-[(1,8-dihydroxy-4-sulfo-2-naphthalenyl)azo]-1-naphthalenyl]azo]-2(or 6)-hydroxy-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

D1-OH

● 2 Na

IC ICM C09D011-00
ICS B41J002-01

CC 42-12 (Coatings, Inks, and Related Products)

ST **water** thinned jet printing ink; oxazolyyl compd jet printing ink; carbonyl compd jet printing ink; acrylate copolymer jet printing ink; dihydrazide adipic jet printing ink; acrylic polymer polyhydrazide jet printing ink; styrene maleic copolymer polyhydrazide ink; frequency response improvement jet printing ink; blurring resistant jet printing ink; anticlogging jet printing ink; rapid drying jet printing ink

IT 110-16-7D, 2-Butenedioic acid (Z)-, polymers with styrene and maleate esters 497-18-7, Carbohydrazide 996-98-5, Oxalic acid dihydrazide 1071-93-8, Adipic acid dihydrazide **2519-30-4**, C.I. Food Black 1 3687-80-7, C.I. Direct Red 26 **5905-21-5**, C.I. Direct Blue 149 8005-52-5, C.I. Direct Yellow 44 8005-53-6, C.I. Direct Yellow 41 **8015-02-9** 25585-77-7, Acrylic acid-ethyl acrylate-styrene copolymer 27341-52-2, K-1010E 30174-74-4, RPS 1001 34977-63-4, C.I. Direct Black 51 72261-10-0, Acrylic acid-methyl acrylate- α -methylstyrene copolymer 156858-62-7, Epocros CX-K 2010E 162994-84-5, C.I. Direct Black 174 162995-06-4, Acronal YJ 6380D

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(jet-printing inks containing hydrazides or oxazolyl compds./polymers and carbonyl compds. and process and apparatus for using these inks)

L22 ANSWER 37 OF 42 HCA COPYRIGHT 2004 ACS on STN

122:169067 Anodic oxidation of some direct azo dyes on platinum and lead dioxide. Borovskii, Yu. A.; Grishina, T. M.; Bogdanovskii, G. A. (Mosk. Gos. Univ., Moscow, Russia). Zhurnal Prikladnoi Khimii (Sankt-Peterburg), 67(8), 1383-5 (Russian) 1994. CODEN: ZPKHAB. ISSN: 0044-4618. Publisher: Nauka.

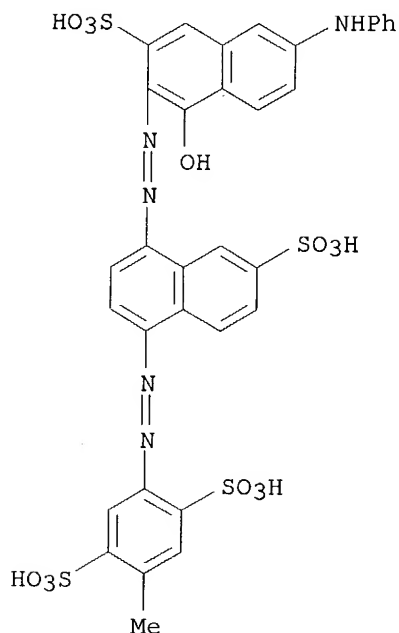
AB Electrochem. decolorization of **aqueous** solns. of azo dyes at Pt or **graphite**-supported PbO₂ preceded at potentials in the O overvoltage range.

IT 161585-74-6

RL: PRP (Properties); REM (Removal or disposal); PROC (Process)
(anodic oxidation of direct azo dyes on platinum and lead dioxide in)

RN 161585-74-6 HCA

CN 1,4-Benzenedisulfonic acid, 2-[[4-[[1-hydroxy-6-(phenylamino)-3-sulfo-2-naphthalenyl]azo]-6-sulfo-1-naphthalenyl]azo]-5-methyl-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

CC 60-2 (Waste Treatment and Disposal)

Section cross-reference(s): 41

IT 6428-38-2, Direct Black 2S 161585-74-6

RL: PRP (Properties); REM (Removal or disposal); PROC (Process)
(anodic oxidation of direct azo dyes on platinum and lead dioxide in)

L22 ANSWER 38 OF 42 HCA COPYRIGHT 2004 ACS on STN

122:83955 Inks and ink jet printing. Shimomura, Masako (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06228476 A2 19940816 Heisei, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-14835 19930201.

AB Storage-stable inks contain 2-oxazoline (I). Thus, acrylic acid-Bu acrylate-styrene copolymer 5, I 1.4, H₂O 68.6, diethylene glycol 5, **carbon black** 15, and iso-PrOH 5 parts were mixed, centrifuged, and mixed (30 parts) with thiodiglycol 20, iso-PrOH 5, I 3, and H₂O 42 parts to prepare an ink.

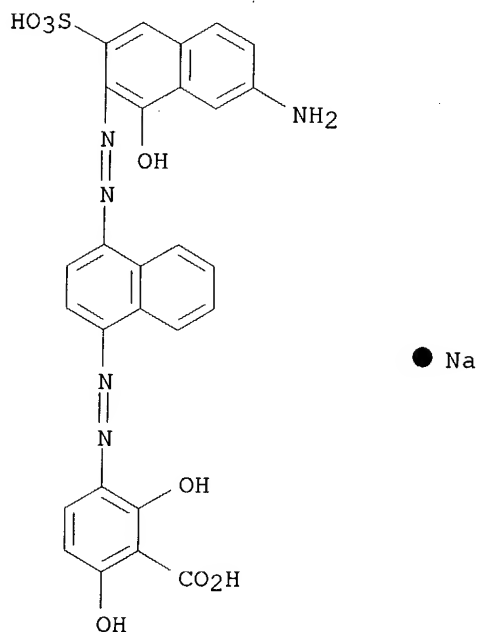
IT 6935-35-9 128226-83-5 160512-93-6

RL: MOA (Modifier or additive use); USES (Uses)

(storage-stable jet-printing inks containing dyes and oxazoline)

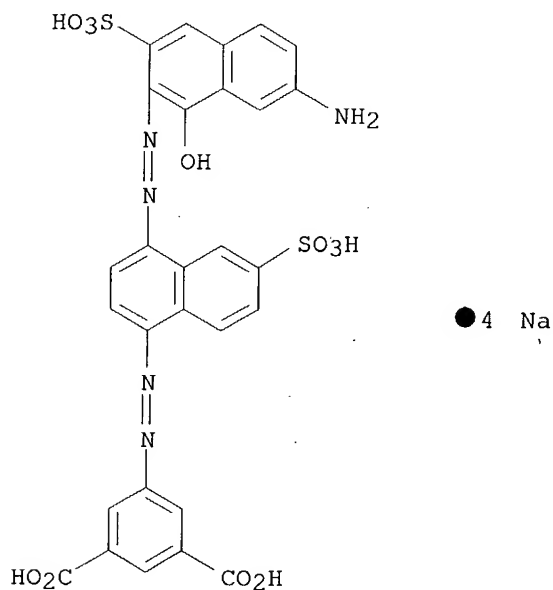
RN 6935-35-9 HCA

CN Benzoic acid, 3-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-1-naphthalenyl]azo]-2,6-dihydroxy-, monosodium salt (9CI) (CA INDEX NAME)

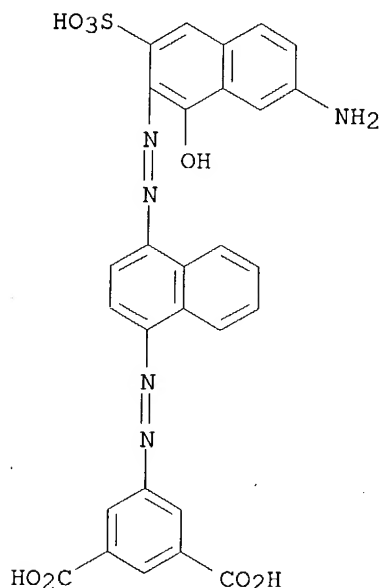


RN 128226-83-5 HCA

CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

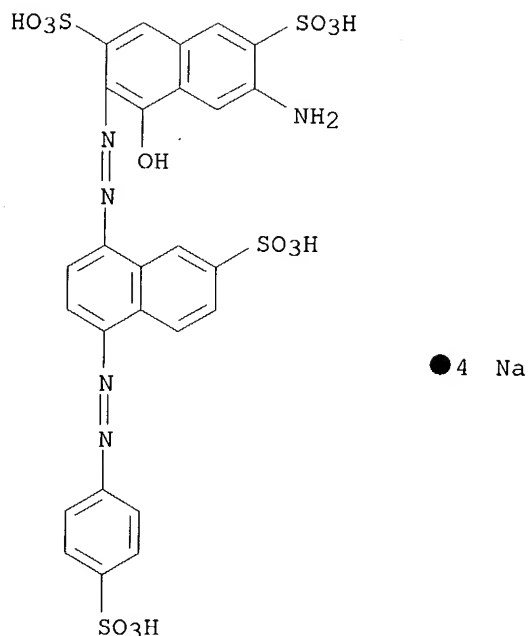


RN 160512-93-6 HCA
 CN 1,3-Benzenedicarboxylic acid, 5-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-1-naphthalenyl]azo]-, trisodium salt (9CI) (CA INDEX NAME)

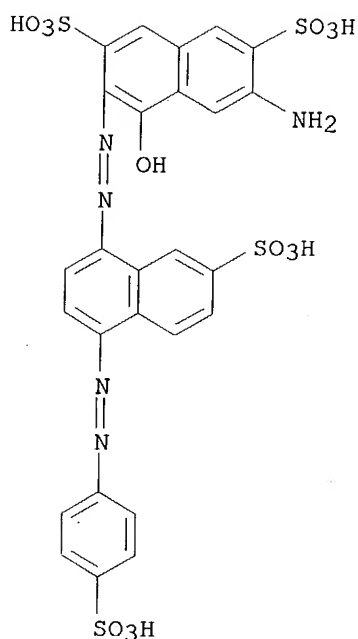


● 3 Na

IC ICM C09D011-00
 ICS B41J002-01; B41M005-00; C09D011-02; C09D011-16
 CC 42-12 (Coatings, Inks, and Related Products)
 IT **Carbon black**, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (storage-stable jet-printing inks containing dyes and oxazoline)
 IT 504-77-8, 2-Oxazoline **6935-35-9 128226-83-5**
 148650-29-7 150627-48-8 **160512-93-6** 160569-40-4
 RL: MOA (Modifier or additive use); USES (Uses)
 (storage-stable jet-printing inks containing dyes and oxazoline)
 L22 ANSWER 39 OF 42 HCA COPYRIGHT 2004 ACS on STN
 118:215088 Jet-printing inks containing carbohydrates. Sano, Yukari; Hayashi, Hiroko; Oki, Yasuhiro (Seiko Epson Corp., Japan). Jpn. Kokai Tokkyo Koho JP 04332775 A2 19921119 Heisei, 4 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1991-104254 19910509.
 AB Title inks, fast-drying and antifeathering with applicability to ordinary paper without causing curling, comprise 0.5-20% solid compds. (e.g., sugars) containing ≥ 4 OH and soluble in **H2O** and/or **H2O**-soluble organic solvents. An ink containing C.I. Direct Black 19 1, α -methyl glucoside 5, glycerol 2, EtOH 6, and **H2O** 86% dried in ≤ 30 s.
 IT **2118-39-0**, C.I. Food Black 2
 RL: USES (Uses)
 (jet-printing inks containing sugars and, fast-drying, antifeathering)
 RN 2118-39-0 HCA
 CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

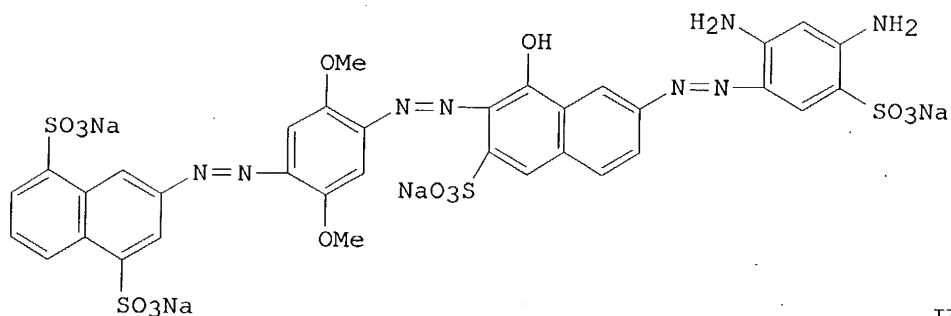
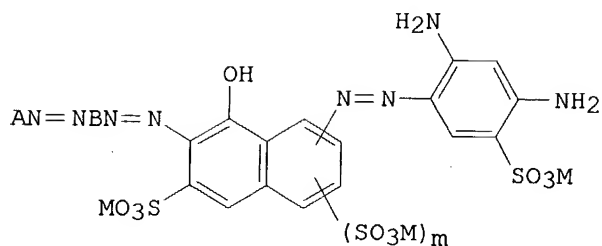


- IC ICM C09D011-00
ICS C09D011-02; C09D011-08
- CC 42-12 (Coatings, **Inks**, and Related Products)
- IT **Carbon black**, uses
RL: USES (Uses)
(pigments, jet-printing inks containing, fast-drying, antifeathering)
- IT **2118-39-0**, C.I. Food Black 2 6428-31-5, C.I. Direct Black 19
8005-03-6, C.I. Acid Black 2 54804-85-2, C.I. Direct Black 154
90452-15-6, C.I. Acid Black 9
RL: USES (Uses)
(jet-printing inks containing sugars and, fast-drying, antifeathering)
- L22 ANSWER 40 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 117:92432 Blurring-free recording fluids and recording methods using them.
Mafune, Kumiko (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 04110360
A2 19920410 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
1990-228225 19900831.
- AB The title fluids containing colorants, **water**-soluble organic solvents,
and/or **water** contain iodine and B compds, which are used in
recording on substrates composed of noncoated paper sized with
starch-based and/or poly(vinyl alc.)-based sizing agents. Thus, a
recording fluid containing C.I. Direct Black 154 3, diethylene glycol 15, 5%
iodine solution in EtOH 8, Na borate 0.5, and **water** 74 parts was
used in jet-printing giving clear prints on sized paper.
- IT **2118-39-0**, C.I. Food Black 2
RL: USES (Uses)
(colorants, inks containing iodine and boron compds. and, for jet-printing
on sized papers, blurring-free)
- RN 2118-39-0 HCA
- CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-
sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX
NAME)



● 4 Na

- IC ICM C09D011-00
ICS B41M005-00; C09D011-16; D21H017-28; D21H017-36
CC 42-12 (Coatings, **Inks**, and Related Products)
ST iodine boron blend **aq** ink; blurring free ink sized paper
IT **Carbon black**, uses
RL: USES (Uses)
(colorants, inks containing iodine and boron compds. and, for jet-printing on sized papers, blurring-free)
- IT Inks
(jet-printing, **aqueous**, containing iodine and boron compds, for sized papers, blurring-free)
- IT 1330-38-7, C.I. Direct Blue 86 **2118-39-0**, C.I. Food Black 2
54804-85-2, C.I. Direct Black 154
RL: USES (Uses)
(colorants, inks containing iodine and boron compds. and, for jet-printing on sized papers, blurring-free)
- IT 64-17-5, Ethanol, uses 107-21-1, Ethylene glycol, uses 111-46-6, Diethylene glycol, uses
RL: USES (Uses)
(solvents, **aqueous** inks containing iodine and boron compds. and, for jet-printing on sized papers, blurring-free)
- L22 ANSWER 41 OF 42 HCA COPYRIGHT 2004 ACS on STN
117:28956 **Water**-thinned inks and ink-jet recording using the same.
Suga, Yuko; Saito, Emi (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 04057865 A2 19920225 Heisei, 14 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1990-168397 19900628.
- GI



AB The title inks showing good nozzle clogging resistance during long-term idle contain **carbon black**, $\leq 2\%$ **water**-soluble resin, polyol and/or its alkyl ether, aliphatic monohydroxy alc., **water** and azo dye I [A, B = (un)substituted benzene or naphthalene ring; m = 0, 1; M = alkali metal, ammonium]. A dispersion was prepared from styrene-maleic acid-Me maleate copolymer (acid value 155, mol. weight 13,000) 5, monoethanolamine 2, **water** 63, ethylene glycol 5, **carbon black** 20, and EtOH 5 parts. An ink comprised the dispersion 40, II 1.5, glycerin 5, ethylene glycol 3, EtOH 5, diethylene glycol 10, and **water** 35.5 parts.

IT 110292-21-2

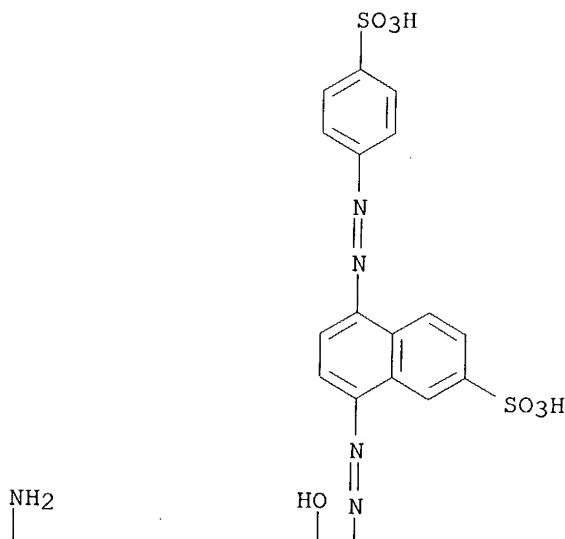
RL: USES (Uses)

(dye, in **water**-thinned jet-printing inks, with good storability)

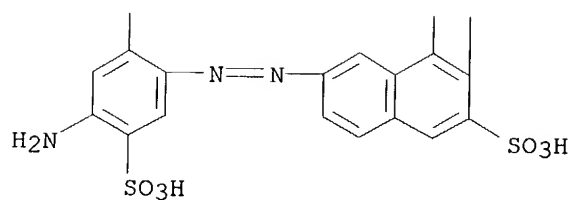
RN 110292-21-2 HCA

CN 2-Naphthalenesulfonic acid, 6-[(2,4-diamino-5-sulfophenyl)azo]-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetraammonium salt (9CI) (CA INDEX NAME)

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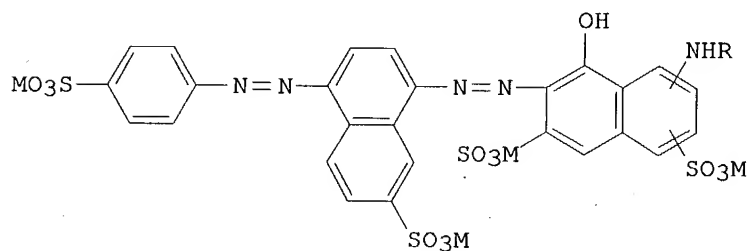


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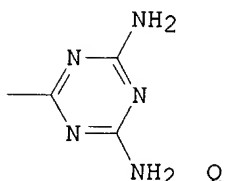
● 4. NH₃

- IC ICM · C09D011-00
ICS B41M005-00; C09D011-02; C09D011-10
- CC 42-12 (Coatings, **Inks**, and Related Products)
Section cross-reference(s): **41**
- ST azo dye waterborne jet ink; **carbon black** waterborne jet ink; **water** soluble resin jet ink; polyol waterborne jet printing ink; ether waterborne jet printing ink; alc waterborne jet printing ink
- IT Alcohols, uses
Carbon black, uses
Ethers, uses
RL: USES (Uses)
(in **water**-thinned jet-printing inks, with good storability)
- IT Dyes, azo
(trisazo, in **water**-thinned jet-printing inks, with good

- storability)
- IT Inks
(jet-printing, **water**-thinned, **carbon black**
and azo dye-containing, with good storability)
- IT Alcohols, uses
RL: USES (Uses)
(polyhydric, in **water**-thinned jet-printing inks, with good
storability)
- IT 109204-93-5 110292-19-8 110292-20-1 **110292-21-2**
110292-22-3 113415-46-6
RL: USES (Uses)
(dye, in **water**-thinned jet-printing inks, with good
storability)
- IT 56-81-5, Glycerin, uses 64-17-5, Ethanol, uses 67-63-0, Isopropanol,
uses 107-21-1, Ethylene glycol, uses 111-46-6, Diethylene glycol, uses
141-43-5, Monoethanolamine, uses 25322-68-3, Polyethylene glycol
25609-90-9 25767-39-9 26809-51-8 52831-04-6
RL: USES (Uses)
(in **water**-thinned jet-printing inks, with good storability)
- L22 ANSWER 42 OF 42 HCA COPYRIGHT 2004 ACS on STN
- 114:187751 Inks and method of jet printing. Suga, Yuko (Canon K. K., Japan).
Jpn. Kokai Tokkyo Koho JP 02276875 A2 19901113 Heisei, 11 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 1989-308331 19891127. PRIORITY: JP
1989-1532 19890107.
- GI



I



Q

- AB The title method for formation of high-d. prints with good fastness
without clogging the jet-printer nozzle uses inks containing **carbon
black**, $\leq 2\%$ **water**-soluble resins, polyols and/or
their alkyl ethers, aliphatic monools, **water**, and azo dyes I (R =
H, Ac, COC6H4SO3M-3, Q; M = Na, K, Li, ammonium). Thus, a mixture of 20
parts MCF 88 and 5 parts EtOH was dispersed in a solution containing acrylic
acid-Et acrylate-styrene copolymer 5, monoethanolamine 1.5, **H2O**
63.5, and ethylene glycol 5 parts, then the dispersion (40 parts) was
mixed with I (R = H, M = Na) 1.5, glycerin 5, ethylene glycol 3, EtOH 4,

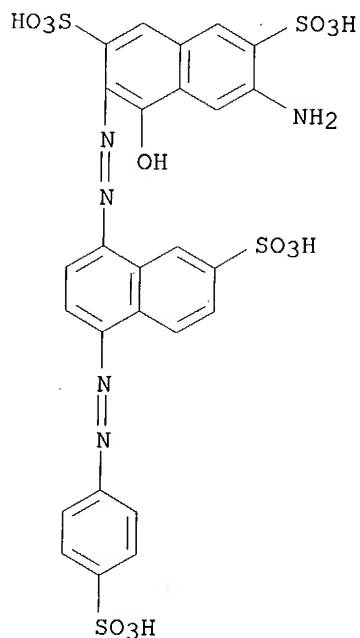
and H₂O 46.5 parts to give an ink, which did not clog a jet-printer nozzle when left standing 1 wk without printing, and formed prints with good light and water resistance.

IT 2118-39-0 16894-29-4 103232-38-8
106028-58-4

RL: TEM (Technical or engineered material use); USES (Uses)
(jet-printing inks containing, anticlogging, storage-stable, with good light and water resistance)

RN 2118-39-0 HCA

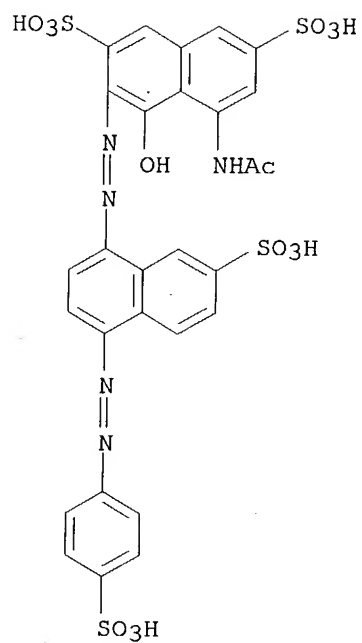
CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

RN 16894-29-4 HCA

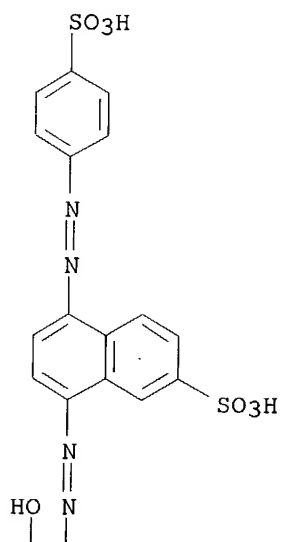
CN 2,7-Naphthalenedisulfonic acid, 5-(acetylamino)-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



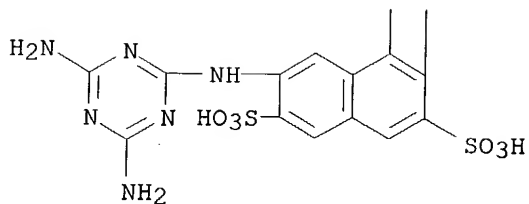
● 4 Na

RN 103232-38-8 HCA
 CN 2,7-Naphthalenedisulfonic acid, 6-[(4,6-diamino-1,3,5-triazin-2-yl)amino]-
 4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-,
 tetralithium salt (9CI) (CA INDEX NAME)

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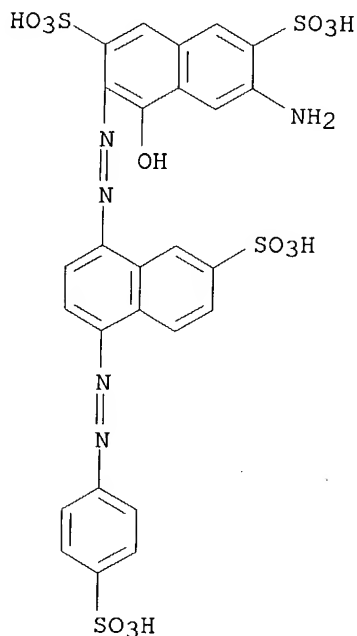


PAGE 2-A



●4 Li

RN 106028-58-4 HCA
 CN 2,7-Naphthalenedisulfonic acid, 6-amino-4-hydroxy-3-[[7-sulfo-4-[(4-sulfophenyl)azo]-1-naphthalenyl]azo]-, tetralithium salt (9CI) (CA INDEX NAME)



●4 Li

IC ICM C09D011-02
 ICS C09D011-02
 CC 42-12 (Coatings, **Inks**, and Related Products)
 ST jet printing ink azo dye; anticlogging jet printing ink; light resistance
 jet printing ink; **water** resistance jet printing ink; polyol
 solvent jet printing ink; alc solvent jet printing ink; **carbon**
black jet printing ink
 IT Dyes, azo
 (jet-printing inks containing, anticlogging, storage-stable, with good
 light and **water** resistance)
 IT **Carbon black**, uses and miscellaneous
 RL: TEM (Technical or engineered material use); USES (Uses)
 (jet-printing inks containing, anticlogging, storage-stable, with good
 light and **water** resistance)
 IT **Inks**

(jet-printing, anticlogging, storage-stable, containing **carbon black** and azo dyes and **water**-soluble resins)

IT 2118-39-0 16894-29-4 103232-38-8
106028-58-4

RL: TEM (Technical or engineered material use); USES (Uses)
(jet-printing inks containing, anticlogging, storage-stable, with good
light and **water** resistance)

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